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## MANAGING EDITOR:

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## TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

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## PRINTERS:

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## EDITORIAL



## CHRISTMAS GOODWILL

Winter has barely passed us by before we have the annual catch-cry—only another 63 days to Christmas! The popular cry is taken up on all sides and once again—all too soon—Christmas is upon us with all its hurly-burly rush and tear, the two days' work that must be crammed in to one, the last minute hustle for Christmas cards and presents, and perhaps the preparation for those long-awaited holidays.

Inevitably, however, the age-old sentiment and tradition of Yuletide retains its meaning in spite of the strain imposed.

We Amateurs, with only some 23 days to go, have a special interest in the goodwill of the season. Although many other institutions of a similar nature to our own also undeniably express their sentiments in the appropriate way, our own peculiar method is unique—the ability to communicate. For communication in whatever form it might take, broadens the outlook and breeds tolerance.

It is unfortunate that in this present era, "full" communication between all peoples of the world is, in some directions at least, taboo. Although at one time we could truthfully say "we Amateurs all batted in the one team," this is not strictly correct at present; and we feel in consequence that Amateur Radio is suffering momentarily from an international relapse.

We can, however, carry on that Amateur Spirit within our own sphere and promote the Amateur's fourth commandment—"The Amateur is Friendly." This arises not from the use of one's christian name—it goes much deeper—it is that leveller of all Amateur relations, the goodwill engendered by the welcome to the home of the mighty, the homely welcome to the shack of the humblest—the hand of friendship and goodwill that we literally radiate.

We might be thought quarrelsome by the outsider who did not know better, but when all is said and done, it is the relative few who often condemn the majority by not following the remainder of the Amateur's commandments. Such rebels and grouseers are few, and it is these people who are not typical of the thousands of others who go about their hobby in a quiet and unobtrusive manner.

To the unfortunate few we say, may the spirit and goodwill of this festive season permeate your Scrooge-like feelings and join with the majority in deriving and striving for a little extra friendliness and goodwill in the season of Christmas that lies ahead.

CHRISTMAS GREETINGS AND  
A PROSPEROUS NEW YEAR TO  
AMATEURS EVERYWHERE.

FEDERAL EXECUTIVE.

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# AN ELECTRONIC KEYS

BY E. A. MARSTELLA,\* VK2AEZ

SINCE the war, electronics have achieved considerable success in many different spheres and the Radio Amateur has benefited by some of these achievements. The one that we are interested in is the Electronic Keyer.

Good operators were very much in the fore before the war, but these days Amateurs are not very much interested in c.w., preferring the use of phone as a medium, no doubt due to lack of practice or ability or both. Use of the hand key is a somewhat tedious task if used for a long time, taking quite a lot of practice and time to be versatile in speed and precision, and usually finishing up with a glass arm. The bug key overcame a lot of the tediousness of the hand key, but precision was usually at fault by using incorrect dot to dash ratio or visa versa.

The Electronic Keyer will fulfill or even surpass the difficulties found by other manual means of keying, but, of course, you must be its "master." Gone will be the days of sorry "missed this" or "missed that" and gone will be the "QLE" attitude from other operators. This Electronic Keyer is simplicity in itself, and being modified from an overseas design, is easy to build and get going and the components readily available.

**CIRCUIT** Referring to Fig. 1, it will be seen that it is simple and one of its main features is that the h.t. positive is earthed which, of course, grounds the paddle of the key (other keyers have their paddles at h.t. above earth) which is a good safety angle. Only one relay is used as compared with two or more with other keyers and the relay is not very critical provided it is reasonably sensitive to current changes.

V1 is the audio oscillator of which R2, R3, R4, L1, C1 form the oscillatory circuit. R5 is the key up plate load to give a smoother keying and is shunted by either portion of R1 when paddle is made the dash or dot contact. It is known that when the h.t. potential to an oscillator has been changed a different frequency will be the result, so by this means we can get two frequencies from the audio oscillator. If the potentiometer R1 is set in such a position and the paddle is in the dot position an audio frequency oscillation of some time interval will result, and when the paddle is in the dash position a lower frequency oscillation will result. By this we can see that the potentiometer setting of R1 is set to one side of centre causing h.t. potential on the plate of V1 to differ for a dash and a dot. This control is called the **dot-dash ratio control** and once its correct position has been found it is never further adjusted.

Having now obtained audio oscillations at two different frequencies from the audio oscillator to correspond to a dot and a dash, we now need the means of varying the rate of these two frequencies. Referring to Fig. 1, if R2 were

to be made variable we could alter the time constant of the oscillatory circuit and therefore the speed could be altered. This control is called the **speed control**.

The inductance used in the oscillator at this station is a 10,000 ohm plate to plate speaker transformer, but anything push-pull audio should do provided it has sufficient inductance. The altering of either C1 or R4 will alter the time constant of the circuit, the larger the C or R, the slower the speed of the keyer. If bigger range of speed is needed, the speed control R2 could be increased to 1.5-2 megohms and C1 reduced. The speed of the writer's keyer has a range of 6-35 w.p.m.

There now appears on the cathode of V1 an a.c. pulse for either a dot or a dash and these pulses are used to trigger the first section of V2 or the relay tube.

type, is about 2 1/2" high, and the other known as P.M.G. type 600, or **minor** type, which is about half the size of the 3000 type, are the best known. The more contact springs on the relay the less sensitive will be the relay. The relay only requires one set of contact springs "normally open" or "make." The coil resistance is not very critical as the adjustment of the **mark to space control** can compensate for different values of coil resistance. Any relay with a coil resistance of from 1000 ohms to 5000 ohms should be found satisfactory, on higher values of coil resistance the value of the **mark to space control** R5 may need to be increased in value. Although only one set of "make" contacts are required, any relay having a different set-up of spring contact assembly can be used provided

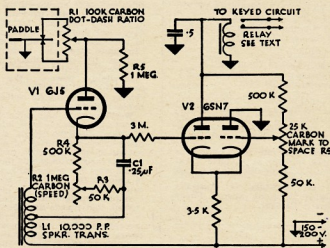


Fig. 1—Circuit of Electronic Keyer.

The second section of V2 functions as a control tube for the first section by controlling the bias of that section, the response from the audio oscillator makes this necessary and the correct operation of the relay tube can be maintained by adjustment of R5. This control is called the **mark to space control** and together with the negative potential to the relay, smoother operation of the relay will result.

With unequal response from V1 the adjustment may be necessary when the speed control R2 is altered to a different speed by any great amount, otherwise dots and dashes may either sound clipped or made too long. Actually R5 needs very little adjustment at all speeds.

**RELAY** The most important component in the keyer is the relay and the final result will depend on this item. A large number of different types of relays are available in various types of disposal equipment and can be bought ex stock. P.M.G. type 3000, or **major**

the relay is sensitive enough; the faster the keying speed, the more sensitive the relay has to be.

The dash character has to be three times that of the dot character for any given speed, consequently the armature of the relay does not travel as far for a dot as it does for a dash. The travel of the armature is adjusted by using the residual screw on the top of the armature or by bending the armature by trial and error until the contacts "make" dots on all speeds. Some relays have fitted buffer springs or buffer blocks or both and the return to normal of the relay armature is readily obtained. The relay used at this station is a type 600 of the older series, being neither fitted with buffer springs or buffer block, so the relay was mounted on a piece of aluminium bent into a right angle and the relay mounted in such a way as to be fitted inside of an MN26 i.f. can and screwed to the can, making it dust-proof, and a piece of sponge rubber was glued to the piece of aluminium bracket

\* 64 Railway Street, Gosford, N.S.W.



behind the relay contacts which had the effect of cushioning the contacts, preventing excessive rubbing of the contacts which caused a metallic type of keying.

Ordinary contacts of a relay take approximately 150 Ma. for a single contact to 300 Ma. for the double contact type. The usual key click filter will, of course, be still needed. The capacitor across the relay is to by-pass the a.c. component, otherwise the relay will chatter.

**PADDLE** The next important part of the keyer is the paddle and can be mounted on the chassis or be a separate part of the keyer and mounted on the operating bench. If you have a bug key, it will be an easy matter to modify. Remove the spring dot contact on the bug and substitute a contact similar to that of the dash contact. The vibrating arm of the bug is made fast by screwing the adjusting screw at the end of the vibrating arm towards the arm so as to make it immovable.

A means of returning the paddle to its central position will be needed, but this will depend on the type of bug you have. Make sure that the dot and dash contacts of the paddle are insulated from each other and to the paddle, otherwise a continual dot or dash will result. If the paddle is "made" to the dot contact and held in that position, a series of dots will result until the paddle is released and the same will be the result if the dash contact is "made," except a series of dashes will be made. Avoid the use of bugs that have two paddles (one for the dot and one for the dash) as you may find that you can press both paddles together and the result will be a dash.

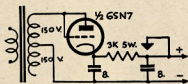
The system used by the writer is a piece of  $\frac{1}{2}$ " x  $\frac{1}{4}$ " brass pivoted in the same manner as a bug arm is pivoted and mounted on a piece of bakelite or similar insulated material. On each side of the pivoted arm, a piece of  $\frac{1}{8}$ " round brass is mounted at about  $\frac{1}{2}$ " or so from the pivoted arm centre and to the rear of the pivot. The  $\frac{1}{2}$ " brass is drilled and tapped to take a small screw. At the correct height so as to give a dot contact on one side and a dash contact on the other side. Springs can be fitted over the small contact screw and insulated from the moveable paddle arm to prevent shorting the dot or dash contact, a nut on the contact screw to give the best spring tension and to bring the paddle to centre each time it is released is behind the spring. It will probably be necessary to use nuts to lock the both contact springs, otherwise they might loosen up.

Instead of the springs, a piece of flat spring could be attached to the end of the paddle to give the same effect as the springs and fastened to the bakelite base; the size of the spring will depend on the tension required. It should not be very hard to devise some scheme when you have the idea. A couple of pieces of bakelite can be fitted to the operating end of the paddle as in the case of the bug key and a reversing switch can be used if needed for the use of left handed operators.

**POWER SUPPLIES** For the power supply two types have been used at this station with equal success. In the half wave supply (Fig. 2) the 6J5 audio oscillator valve was replaced with a 6SN7 valve and one section was used as the audio oscillator valve and the other section was used as the rectifier.

In the full wave supply (Fig. 3) the 6J5 remained and a 6X5 valve was used as the rectifier valve.

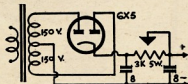
The transformer used was a small 150-0-150 v. at 30 Ma. Make sure that the electrolytics are insulated from the chassis, otherwise you will have a short circuit. The first electrolytic may not be necessary, depending on the type of transformer used. Output voltage of about 170-200 volts is all that is necessary for operation of the keyer. Perhaps there is an old "B" eliminator lying about which could be used.



**HALF WAVE POWER SUPPLY**  
Fig. 2.

The complete unit with power supply was built on a chassis  $8\frac{1}{2}$ " x 5" with a front panel 8" x  $5\frac{1}{2}$ ". On the front panel was mounted h.t. centre tap switch, speed control, mark to space control and the dot-dash ratio control. The dot-dash ratio control has the shaft cut off and a slot made for a screwdriver as this control, once its correct position has been found, is never altered unless circuit change has been made; if you care, it can be mounted inside the unit.

On the back of the chassis a terminal strip or a socket is mounted to take three leads from the paddle and two leads to the keying circuit in the transmitter, making five leads in all.



**FULL WAVE POWER SUPPLY**  
Fig. 3.

**CONCLUSION** Having completed the keyer, the only adjustment needed is to get the dot-dash ratio correct in conjunction with the mark to space setting. Set the speed control about halfway and the dot-dash ratio control at about one-third of its travel; now depress the paddle into the dot position and adjust the mark to space control through its range until the relay operates, now move the paddle over to the dash position, it could be possible that the keyer is giving the reverse procedure, that is dashes instead of dots, and if this is the case reverse the dot and dash leads to the paddle. It should

not be very difficult to get correct dot-dash ratio by ear or by using an ohm meter across the relay contacts.

All that is required is some practice by starting at a slow speed on an oscillator. Don't brag about sending at 30 w.p.m. if you cannot send at even 15 w.p.m. This electronic keyer is an acquisition to any shack. Here's hoping to see you all electronic keying on the bands one day.

## LADIES BEWARE!

### THE TALE OF THE PURLOINED TEASTRAINER

When the writer decided that the quality provided by a G.P.O. carbon microphone was not all that it might be, a crystal insert was obtained. Then began the search for a suitable container.

At teatime, while idly watching the XYL pour out the cup that cheers, the idea of using a teastainer for the job was born. Later, when the coast was clear, the article in question was stealthily removed from the cupboard and taken into the shack. It was just the right size to carry the crystal insert.

A piece of aluminium the size of the circular rim of the teastainer was cut to provide a back. The insert was then fitted into the strainer facing outwards, a piece of rubber placed on its back and the aluminium back plate pressed on and fixed in position with self-tapping screws. Ordinary television coaxial cable, brought out through a rubber grommet, was used for the microphone lead and bound to the handle.

Some days later, after an exhaustive search had failed to locate the missing strainer, the lady of the house saw it in the shack. Then the OM really learnt the names his parents had forgotten to give him! However, a visit to the local emporium secured another for sixpence, but unfortunately the bunch of flowers and the box of chocolates bought to "soothe the savage breast" made the whole job rather more expensive than expected!

The moral for anyone who contemplates using a similar gadget for their crystal insert is—go and buy one; it will be cheaper in the long run!

—R.S.G.B. "Bulletin," June, 1954.

## DX C.C. CERTIFICATES

It has been brought to the notice of Federal Executive that the DX C.C. Certificate will need to be reprinted in the near future, as stocks of the present one are now very low.

As this is a most sought-after award, it is imperative that the Certificate is worthy of its place of honour. Keeping this in mind, Federal Executive feels that a new design might be of interest to members and would be willing to print another now that this is due.

In order to encourage interest and competition for a suitable design, the Federal Executive will award a prize of Two Guineas to the entry which they consider most satisfactory for the Certificate.

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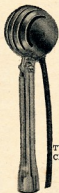


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# AT5 REBUILT AND MODIFIED

BY A. W. WINTER,\* VK5DR

MANY articles have been written on all types of disposals gear, but few, if any, have appeared in "A.R." on the AT5 transmitter, which is still available at a reasonable price. One was purchased some three years ago by the writer, and from it a cheap and efficient rig has been built.

As it stands, the AT5 is not an ideal transmitter from the Amateur's point of view, but with a few modifications can be quite useful.

Firstly the final, which is 807's in parallel, was built on a 17" x 10" x 3" chassis for rack mounting, also on the same chassis is the 807 buffer-doubler and a 6V6 buffer-doubler using the modulation tube from the AT5 for the latter.

The only alterations to the final were: Tuning condenser was cut down to 26 plates, the tank coil transferred to the junk-box, and appropriate coils wound for each band.

The screen supply was taken from the plate supply through a 30,000 ohm 25 watt resistor. A key jack was placed between the centre tap of R27 and R30.

In the 807 buffer-doubler stage, the tank circuit was replaced with a 50 pF. midget variable with coils wound to suit. The 6V6 buffer-doubler stage is more or less the usual.

Now to the VFO. This was completely wrecked, using the gang for antenna tuning. The 3.2 to 4 Mc. coil was used for the existing VFO by taking off turns until 27 remained, and then building the circuit of Fig. 1 on a separate small chassis with the dotted portion shielded by a small metal box. The 190 pF.

silver mica condensers came from the low frequency oscillator unit.

With correct adjustment of the coil slug and C4, 3.5 to 3.6 Mc. can be spread over 180 degrees of the dial, which is far better than the original unit could do, i.e. 3.2 to 4 Mc.

I believe there are a good number of AT5-AR8 manuals to be had, but for those interested in the conversion, the circuit as used at this station is diagrammed in Fig. 2 with the numbers of the components shown to correspond with those clearly marked on the terminal strips of the AT5 itself. The very few additional parts that were required are shown with the component value.

After building this rig, quite a number of useful parts such as switches, ceramic coil formers, condensers, resistors, etc., remained for the junk-box or what have you.

So it can be seen that a VFO with bandspread, plus three stages, can be had for approximately £10, less power supply.

Prior to going off the air two years ago, through lack of suitable power, the writer used this rig with only 15 watts input to the 807's and worked 69 countries in 10 months of operation—so go to it chaps. Oh! I forgot to mention that besides the transmitter, I was using five wavelengths vee beams.

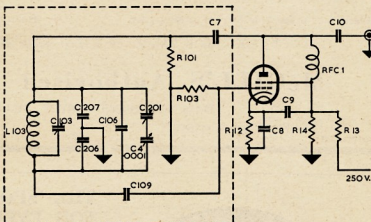


Fig. 1.

C207 and C206—190 pF. silver mica from low frequency oscillator.  
L103—See text for alterations.

\* Cape Borda Lighthouse, via Kingscote, Kangaroo Island.

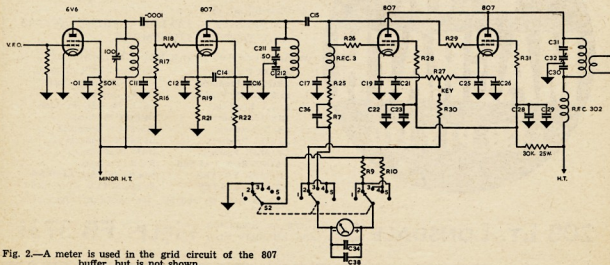


Fig. 2.—A meter is used in the grid circuit of the 807 buffer, but is not shown.

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BY TOM ATHEY,\* VK4UT, A.I.R.E. (Aust.)

## System for Monitoring Your Outfit

For the c.w. man his requirements are fairly simple. To monitor the output it is necessary to feed part of your output back into your phones or speaker so that any chirps or birdies can be checked and eliminated. To do this, feed back a small portion of your output to a small battery receiver—a one valve will suffice. Build up a simple regenerative receiver using such a 174 Mc. wave. Coupling the final may be obtained by using a pick-up loop located near your tank coil. Note—As your tank coil has high r.f. voltage on it, care must be exercised to avoid accidents in coming in contact with it. This r.f. loop picks up the signal transmitted and allows you to hear what you are sending. The receiver can also be used as a means of monitoring your speaker. However, it is not a very good method of checking a note to your final as no indication is given to distortion other than what you can hear.

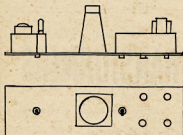


Fig. 1.—The front panel and location of main components.

For the amplitude modulations boys I suggest they build up a c.r.o. because it will not only give you a visual pattern of your output, but has many other uses around the shack. The system I intend to describe is a very small one, requiring very few parts and is intended to be mounted right into the rack. Thus by using the small audio oscillator described in a previous article, you can adjust your rig for maximum output free of distortion, or in other words 100 per cent modulation.

By using the negative peak high level filter shown in this series' modulator, you can boost up the positive peaks and by using a clipper circuit in the speech amplifier you can flatten out those peaks with the result that you can improve your transmitter output power without increasing your input to the final. However, as far as the newcomer is con-

cerned I think he should stick to the conventional method of obtaining 100 per cent. modulation.

The c.r.o. about to be described here will give—

- An indication of the percentage level of his modulation.
- A visual pattern of the waveform of his output.
- The instantaneous peaks, both positive and negative, which contribute so much to splatter.
- Whether he is over modulating or under modulating.
- The cost of the unit will be quite reasonable for the results he will obtain.

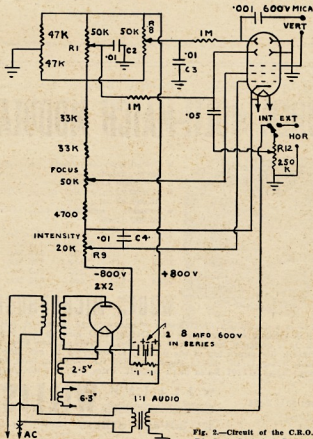
Before going on to the actual description of the c.r.o., a word in passing on another method of obtaining level indications. This unit is known as a modulation monitor with a flasher level indicator. This is the type used by most of the broadcasting companies and can be calibrated to show instantly whether the peaks are in excess of a predetermined level. However these units are much beyond the pocket of Amateurs.

The c.r.o. in this article is a 2" type. A 2AP1 will do nicely, or a 1 inch type will do if you mount it behind a magnifying glass. The rack size of the panel is 19" x 5½" (see Fig. 1).

Referring to Fig. 2, it will be seen that the c.r.o. tube requires about 800 volts to make it operate. To get this voltage an ordinary replacement type transformer is used, the two windings of the secondary being used as a half wave rectifier. The valve used is a 2X2, fairly easily obtained from the various valve stores or from the advertisers in "A.R." The sweep voltage is obtained by using a small audio transformer having a turns ratio of 1:1.

Other points to note are that the panel is used to mount the components to, a small sub-chassis is used to house the wiring of the power pack and the sweep circuit controls are also housed in another sub-chassis attached to the other end of the panel. The c.r.o. tube is mounted in the centre of the panel and its socket is free and is over the pins like a speaker plug.

To support the tube get a mu-metal shield to fit the tube, solder retaining brackets to the wide end and bolt it to



**Fig. 2.—Circuit of the C.R.O.**  
**R1—Spot Centring Control.**

\* Ex-Instructor Q'land Division W.I.A. Classes;  
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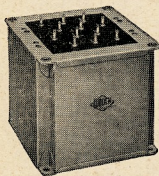
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UM4	250	500	400 Ma.	10½" x 6½" x 8½"	41 0	on application

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the panel. If these directions are followed, you will obtain a pleasing panel appearance and have a modulation monitor well worth having.

The circuitry is easy to follow and should present no difficulty to any Amateur. The condensers C2, C3, C4 are connected directly to their respective potentiometer rotor arms R1, R8, R9. These by-pass condensers are used to control and eliminate the a.c. component from the d.c. control circuits in the sweep circuits.

As stated before, the socket is not fastened to any of the structural parts of the chassis, but is used as a plug. The socket pins are covered by a metal shield with two holes cut into the sides to permit entry of the leads for filament and the d.c. leads. The latter is a shielded cable as are all terminal leads.

Both of the transformers are mounted externally to their respective sub-chassis. The four potentiometer controls and the sweep switch are mounted together and enclosed in a metal shield. Wiring of the power unit is also enclosed in its sub-chassis. Care in wiring the circuit should result in no mistakes as the circuit is very simple. Make sure that you get linear taper potentiometers for the four controls. I.R.C. make them, but you may have to order them as they are not a normal stock item.

## USING THE SCOPE

To obtain patterns, it is possible to use the scope in two ways:—

1. To show a wave envelope modulation pattern, or
2. To show a trapezoid or wedge shape pattern.

Connections to obtain either of the patterns are shown in Fig. 4.

**Wave Envelope Pattern.**—Place a small pick-up loop in close proximity to the final tank coil and vary its position until you get a pattern as shown in Fig. 3b. When you speak into the microphone you will get a rapidly varying pattern envelope. When the peaks swing the

pattern to twice the width of the unmodulated pattern, you have obtained 100 per cent. modulation as shown in Fig. 3d. Figs. 3c and 3e represent under and over modulation.

If you feed your audio oscillator into the microphone input use the highest frequency that it has—3,000 cycles. Remember that the modulation percentage is based on the highest frequency being used as the frequency excursions will control the peak voltage developed. As Amateurs' voices rarely exceed 3,000 cycles, adjust your modulation for 100 per cent. at that frequency and all will be well. Connections to the c.r.o. are shown in Fig. 4a.

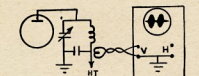


Fig. 4a—Connections for Wave Envelope Pattern.

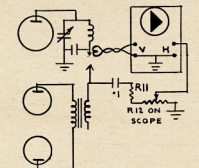


Fig. 4b—Connections for Trapezoid Pattern.

**Trapezoid Pattern.**—To obtain this pattern refer to Fig. 4b. Here you will see that audio from the modulator is required. The scope sweep switch is moved to external sweep position and the audio is fed to the horizontal terminals. When the two frequencies are placed on the scope plates, you get a triangular pattern on the scope screen. These patterns are shown alongside the wave envelope patterns (Fig. 3) and in a similar position to indicate the correct modulation percentage.

**Warning.**—It is necessary to use a resistor R11 between the horizontal input terminal and the coupling condenser from the modulator. The value of this resistor is arbitrary, but if the horizontal control potentiometer is of 250,000 ohms, the resistor should bring up the total resistor value to 250,000 ohms for every 150 volts of modulation output.

For example, if the modulating voltage is 600 volts, the total resistance should be 600/150 times 250,000 ohms. This equals four times quarter megohm or a total of one megohm. Therefore the fixed resistor would be 750,000 ohms.

The blocking condenser should be 0.1 uF. or more, rated to carry the voltage safely. The rest of the set-up is obvious and with this set-up you should be able to control your modulation in such a way that you will avoid the pitfalls of "splatter."

## HINTS AND KINKS

### TESTING CONDENSERS

After building sundry pieces of apparatus with varying degrees of success, I found that most of my trouble was due to faulty condensers, so I decided to "Megger" each condenser and resistor prior to putting it to use. I was surprised to find half of the Condensers used in one article useless, even some of the new ones being faulty.

I then tested all the Condensers in the junk box, both paper and mica (many of my stock were taken from disposals apparatus), and found 40% were bad, so discarded them.

I used a 500 volt constant voltage "Megger," and any Condenser reading below 10 Megs. was considered unfit for most jobs (even the 10 Meg. ones were treated with caution). Many had resistances as low as 60,000 ohms, some 600 volt working being as low as this.

Admittedly the test voltage (500) was high, but when it is considered that many paper Condensers designed for a working voltage of 250 are tested with 600 volts DC, the "Megger" test is not quite so severe.

Since adopting the "Megger" test, most of the pieces of apparatus I build work first try.—VK5CH.

### OPERATING A.C. RELAYS

A means of operating a.c. solenoids and relays from a lower voltage is to use a series resonant circuit. Resonance may be found by connecting the circuit to a very low voltage with a volt meter across the coil and adding capacity, at the same time opening and closing the armature by hand and noting the voltage reading. When resonance has been obtained, the capacity should be adjusted until resonance occurs when the armature is approximately three-quarters closed.

For an example, if a 415 volt coil is to be used on 240v. 50 cycles, a capacity of between 2 and 4uF. may be required with a voltage rating of at least 600 volts. A convenient voltage for testing is about 50v. When the circuit is put into service, the armature should close smartly passing through resonance and coming to rest with the correct operating voltage across the coil. Relays particularly suitable are direct-on-line contactors, which are often used for small motors.

### SMALL FILAMENT TRANSFORMERS

A convenient and economical source of small filament transformers is output transformers. For an example, an impedance ratio of 5,000:3.7 will give a step-down of 240 volts to 6 volts. The current drain is limited though, to the diameter of the wire.

—R. K. Wilson, Burnie, Tas.

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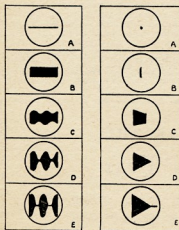


Fig. 3.—Left: Wave Envelope Patterns.

Right: Trapezoid Patterns.

A.—No Carrier.

B.—Carrier.

C.—Under Modulated.

D.—100 per cent. Modulated.

E.—Over Modulated.



# STABLE V.F.O. OPERATION AT 144 Mc.

BY DR. ROBERT H. BLACK,\* VK2QZ

THE frequency determining device for the great majority of stable 144 Mc. transmitters is a quartz crystal oscillator operating at its fundamental frequency of 3 Mc. or on an odd overtone. V.F.O.'s at 3 Mc. are not inherently stable and the fundamental frequency of oscillation must be lowered to 4 Mc. or even 2 Mc. to secure stability. This means that the frequency must be multiplied 36 or 72 times for output at 144 Mc. and any drift in the oscillator is multiplied 36 or 72 times at the output frequency. In addition, a special frequency range is required for the v.f.o. which differs from the range used for the usual high frequency Amateur bands.

The method described in this article for v.f.o. operation at 144 Mc. allows the use of output from a v.f.o. at about 3 Mc. and there is only a threefold multiplication of this signal frequency. This should give better stability at 144 Mc. than is obtained with the same v.f.o. at 14 Mc.

Briefly, the procedure in the experimental set-up was to use a crystal oscillator and multiplier to take the signal frequency to 45 Mc. and then output from the v.f.o. at 3 Mc. was fed into the system. The added signal frequency was then 48 Mc. which, when multiplied three times, gave output at 144 Mc. Fig. 1 illustrates this procedure.

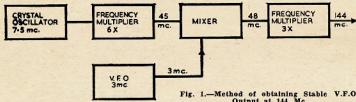


Fig. 1.—Method of obtaining Stable V.F.O. Output at 144 Mc.

The crystal oscillator and frequency multiplier stages are standard and require no detailed description; sufficient output for the purpose was obtained from a single 6J6 overtone oscillator

\* "The Chalet," 2 Yerton Ave., Hunter's Hill, New South Wales.

and doubler. The v.f.o. in the experimental set-up was a Type 19 transmitter operating at reduced voltage—similar output would be obtained from a 6V6 in the output stage of a v.f.o.

The mixer stage was derived from the balanced modulator of single side-band technique. The circuit diagram (Fig. 2) shows the method of feeding the input signals at 45 Mc. and 3 Mc. into a single 6C4 which acts as a mixer. The output circuit of this tube is tuned to 48 Mc.

Obviously there are signals at frequencies, other than the one at 48 Mc., appearing as the result of mixing the two signals of frequencies 45 and 3 Mc., as well as the possible harmonics of these frequencies, so that some means of filtering out the unwanted signals is necessary.

In addition, the output at 48 Mc. is relatively small. These two features both contribute to the desirability of isolation-amplifier stages following the 6C4 mixer. Link coupling from the 6C4 to the next stage should reduce the harmonic content of the signal.

In the experimental set-up the two stages following the 6C4 used a 6AQ5 and a 6AQ5. Sufficient output was available from the 6AQ5 for the use of a 5763 as the frequency multiplier for output at 144 Mc.

The use of a grid dip oscillator aided the identification of the various signals encountered in tuning.

Output from the 5763 is adequate to drive an 832 or it can be fed direct into the antenna as it was in the set-up described here.

## COMMENT

The method presented is by no means new; it has been used locally by McMahon (1951) for a frequency meter and has been described for v.f.o. operation at v.h.f. by French Amateurs (in a journal of the R.E.F., which is not available to the writer for reference).

The use of a v.f.o. eliminates the rather difficult task of locating a suitable 3 Mc. crystal.

With suitable v.f.o. output frequency, the crystal frequency can depend on the crystals in stock. The v.f.o. used for lower frequency operation with output at 3.5 Mc. could be used with a crystal at about 7.4 Mc.

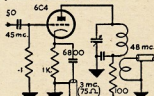


Fig. 2.—6C4 Mixer with grid injection of Crystal controlled signal at 45 Mc. and cathode injection of v.f.o. signal at 3 Mc.

The v.f.o. can be subjected to frequency modulation, using a diode, as reported by Taylor (1953).

During operation, the v.f.o. can be kept running continuously as it does not interfere with the received signal.

Netting is not a critical operation as it would be if the frequency of the v.f.o. were being multiplied 36 or 72 times.

The technique could also be employed for the construction of a heterodyne frequency meter for the 144 Mc. band; there would be adequate third harmonic output from the 6C4 mixer for this purpose.

This brief account is put forward for further development by interested v.h.f. enthusiasts, but the system as described provides very stable output at 144 Mc.

## REFERENCES

- McMahon, L. H., 1951, "Simple Frequency Meter for Amateur Bands," "Amateur Radio," Vol. 19, No. 6, p.2.  
Taylor, A. F., 1953, "Diode F.M.," "Amateur Radio," Vol. 21, No. 1, p.5.

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# WIN FOR SOUTH AUSTRALIA

Congratulations to the South Australian Division for winning the Remembrance Day Contest for 1954 by a narrow margin from Western Australia.

Despite the rules which appear to favour the smaller States, the Contest continues to maintain its popularity. This year a total of 457 logs was submitted; there were also four listeners' logs. Many logs were not submitted and the number is estimated at 200, a shadow on what was otherwise one of the finest contests which we have had.

It was noted that stations in T.N.G., Papua, Admiralty, Macquarie, Heard and Cocos Islands participated and again these stations in the Territories gave the Contest added spice. Logs from Macquarie and Heard Islands were transmitted by radio to VK5JT and VK5MS respectively, and as was the case last year, all concerned must be congratulated on the effort they made in getting the logs to the Contest Committee in time for checking.

Propagation conditions prevented bands higher in frequency than 14 Mc. being used (a few contacts on 21 Mc. were made). For those who followed the prediction charts, the estimated times for the opening and closing of the bands was borne out in operating.

Although the number of logs did not vary from the previous year, the top logs generally showed a marked increase in the number of contacts and some scores were very close to 900. This year the rules provided for awards to the top phone, open and c.w. scorers in each Division. In addition, the Committee made awards to the top scorers in VK1 and VK9 call areas; and to the two listeners who submitted very large logs. This change in the awards considerably increased the time required for checking; for you will see on perusing the scores that the winners of the c.w. section did not come usually in the top six logs.

As received, the logs showed that Western Australia and South Australia had practically the same points. It was therefore necessary to make a complete check of all logs of these two Divisions to decide the winner. A really formidable task! A full check of logs of all contenders for individual awards was made and between 8,000 to 10,000 individual entries on logs were checked!

A very gratifying feature of the log checking was the effort by the contestants to make their logs easily read and assessed. The use of the standard log sheets assisted materially towards that end. The Councils of the various Divisions should also be pleased to note that the country members were well to the fore in the honours list.

The Committee desires me to record its appreciation of the efforts of the members in VK5 Division who freely gave of their time in the same spirit that the Contest was played. Those members, too, appreciated the very able way that the Contest Manager, Jim Vivian, VK5FO, organised their time to the best advantage. Our thanks also go to the South Australian Hon. Secretary, Reg. Harris, VK5RR, who received the

logs from the post and got them ready for the Contest Manager.

And now it remains for me to thank you for what I consider was a really fine contest. Truly I can now say that the spirit of unselfishness and love which gave birth to the idea of the contest will stay alive.

*"By your acts of grace,  
They shall so live."*

G. M. BOWEN, Chairman Contest Com.

## THE TOP SCORERS

### South Australia

VK5MS	895	Average Score	731.50
5RG	835	Licenses in State	347
5EN	782	Logs	66
5WC	673		
5FO	602		
5WO	602	Total Points	870.63

### Western Australia

VK6FL	773	Average Score	629.83
6RU	740	Licenses in State	196
6GU	642	Logs	68
6DX	634		
6MK	513	Total Points	848.35
6TK	477		

### Tasmania

VK7DZ	631	Average Score	515.50
7AI	612	Licenses in State	107
7PM	583	Logs	43
7WN	501		
7SF	421		
7LJ	345	Total Points	722.66

### Victoria

VK3ATN	897	Average Score	609.17
3ADW	667	Licenses in State	949
3FH	606	Logs	122
3HG	552		
3ALQ	489	Total Points	687.48
3XK	444		

### Queensland

VK4SF	699	Average Score	560.17
4QP	590	Licenses in State	318
4FP	548	Logs	49
4AB	531		
4EC	510	Total Points	646.48
4TN	483		

### New South Wales

VK2AMR	613	Average Score	559.00
2JH	588	Licenses in State	1030
2AUH	575	Logs	80
2RS	536		
2GW	535	Total Points	602.42
2AKV	507		

## AWARDS

### Open

VK1AC	996	VK5RG	835
2AHH	575	6FL	773
3ATN	897	7OM	313
4SF	699	9DB	531

### Phone

VK2AMR	613	VK6DX	634
3ACE	426	7DZ	631
4QP	590	9FN	531
5MS	895		

### C.W.

VK1GA	246	VK5KU	352
2XZ	325	8EZ	141
3ZO	201	7LJ	345
4WH	211	9WZ	105

### Listeners

F. H. Price, 656; N. G. Clarke, 585.

State	Claimed	Allowed
VK2	3508	3354
VK3	3736	3655
VK4	3450	3361
VK5	4554	4389
VK6	3980	3779
VK7	3155	3097

## OTHER LOGS

### TERRITORIES

VK1AC	996	VK6DB	531	VK9WZ	105
1GA	246	8FN	531	9WG	71
1DJ	180	9PN	243	9HI	57
1DY	42				

### NEW SOUTH WALES

VK2BO	382	VK2AVS	139	VK3ARO	38
2ZY	376	2AHI	137	2VC	36
2BQ	346	2AGW	130	2AGW	36
2AB	333	2GI	128	2AFA	33
2XZ	325	2QS	125	2VN	33
2AJO	295	2JW	121	2BW	32
2VU	293	2IC	99	2ADL	31
2OE	258	2VW	91	2ACN	30
2EJ	252	2FM	89	2AGJ	30
2ASA	246	2AJS	81	2EA	29
2XQ	238	2JY	80	2OI	26
2AEP	231	2YB	78	2YBQ	25
2OT	215	2AUP	77	2RA	24
2AWQ	208	2ASE	76	2AUA	23
2QL	203	2AJS	75	2AUA	23
2AYS	191	2AGI	70	2ZQ	23
2ABE	188	2PM	67	2AQ	20
2SR	176	2JP	55	2BG	20
2AHP	174	2PU	45	2OZ	20
2FA	174	2AJU	41	2PL	16
2PV	166	2AWN	41	2WI	14
2AHM	164	2AJS	40	2AXZ	13
2PN	155	2FZ	39	2ADT	12
2ACD	147	2JA	39	2CF	10
3PV	145			2AVG	9

### Victoria

VK3ADI	431	VK3WM	105	VK3ACJ	38
3LY	426	3AJP	102	3DG	35
3AFO	426	3AWB	98	3IH	35
3XB	425	3AJP	98	3IH	35
3ZA	354	3AHP	97	3ACX	31
3OM	346	3YS	88	3TB	31
3AT	325	3SX	88	3VQ	29
3UR	303	3GG	87	3VR	29
3AJU	272	3TX	83	3LR	28
3KC	263	3ALY	82	3TP	27
3OK	249	3JE	75	3B	26
3AKO	249	3OZ	75	3ALI	26
3ALP	229	3AJA	74	3FD	24
3ACN	229	3YQ	73	3YQ	24
3WQ	228	3ARL	71	3AIM	23
3AGD	218	3AEH	70	3PG	23
3U	201	3KR	69	3ARJ	22
3DU	197	3AWS	69	3AHK	22
3DY	196	3ALE	69	3QU	22
3A	186	3AJS	68	3AJS	21
3ANO	189	3ARV	63	3QZ	21
3YV	173	3ADU	66	3BI	20
3A	171	3AHP	60	3CXH	19
3CX	171	3AHP	60	3BQ	19
3AJP	163	3VZ	59	3IE	18
3AJP	156	3AFT	57	3AFT	17
3PR	155	3AKW	53	3AID	17
3RN	154	3SK	50	3CE	16
3A	147	3AAT	47	3AXM	15
3AGV	143	3DQ	45	3ZM	14
3ZV	138	3ANX	45	3APF	13
3E	137	3A	44	3JO	13
128	128	3NF	43	3AAP	12
3RV	128	3ZU	43	3ABA	12
3Z	124	3ZC	42	3OJ	12
3A	124	3AID	40	3AID	10
3RJ	108	3AGP	40	3XJ	10
3AHH	108			3AVM	7

### Queensland

VK4FU	478	VK4JD	93	VK4AW	24
4DI	438	4OR	81	4PA	24
4G	378	4GG	79	4ZL	22
4TY	361	4HZ	52	4HM	21
4HG	354	4AO	48	4KL	17
4G	330	4DO	46	4XK	15
4CC	275	4RW	44	4XS	15
4ZP	221	4YA	34	4XC	14
4WH	211	4LE	31	4FE	11
4Z	122	4NJ	29	4IC	10
4JF	116	4XY	29	4ZZ	9
4VJ	108	4CJ	28	4BG	7
4Y	105	4YS	27	4MT	6
4PT	105	4RE	23	4BY	6
		4NG	25		

(Continued on Page 12)

# AMATEUR CALL SIGNS

FOR MONTH OF OCTOBER, 1954

## ADDITIONS

**New South Wales**  
 2WK-A. J. B. Kelso, Wambrook Road Station, R.M.B. 6A, Adamantina Road, Cooma.  
 2AAV-A. I. Dunstall, 69 Duff St., Broken Hill South.  
 2ADI-D. E. Sidler, 498 William St., Broken Hill.  
 2AIR-A. J. Smith, 19 Blenheim St., Croydon Park, Sydney.  
 2ANZ-J. F. Shortall, Station: 21 Orwell St., Potts Point, Sydney; Postal: P.O. Box 3408, Sydney.  
 2ASG-E. K. Broadbridge, C/o. Radio Station 2GF, Grafton.  
 2AWE-R. M. Weston, 273 Anzac Pde., Kingsford.  
 2AWM-T. S. Mayne, 153 Marquett St., Epping.  
 2AWR-W. A. Rowse, 28 Central St., Broken Hill South.  
 2AZB-J. K. W. Bork, 42 Queenscliff Rd., Manly.  
 2AZD-J. W. M. Dadds, 179 St. James Rd., New Lamb.  
 2ZAB-W. T. Boon, Bunnerong Rd. and Franklin St., Matraville.  
 2ZAC-W. R. Cox, 44 Park Rd., Hurstville.  
 2ZAH-W. H. Harder, Flat No. 6, Royal Building, Argent St., Broken Hill.  
 2ZAK-D. B. Gerlick, 70 Cavendish St., Stanmore.  
 2ZAR-R. A. Ridgley, 10 Curtin Ave., Abbotsford, Sydney.

**Victoria**  
 3AD-W. A. S. Butement, 51 Barry St., Kew.  
 3AIN-I. Grant, R.A.A.F., "Frognaill," via Canterbury.

## R.D. CONTEST RESULTS

(Continued from Page 11)

South Australia			
VKJN	552	VK5B	158
5H	452	5PM	151
5GW	439	5PQ	140
5KE	374	5JH	123
5XA	357	5BY	117
5Z	332	5BK	104
5LD	328	5BG	103
5LQ	256	5TL	101
5K	249	5ND	90
5FK	248	5FJ	97
5DK	228	5AV	95
5OK	197	5PB	76
5OL	183	5HM	72
5LS	182	5KF	70
5FM	182	5WI	63
5AP	180	5ZL	63
5XO	172	5TJ	40
5MZ	169	5KY	40
5KW	165	5OR	29
5CE	163	5UG	38

Western Australia			
VK6J	349	VK6TE	29
6NP	24	6AG	26
6JG	146	6BS	28
6EZ	141	6BO	27
6FD	138	6WO	26
6LU	138	6SF	24
6TY	100	6AW	23
6LH	98	6XG	23
6ND	94	6WG	23
6WJ	74	6LM	23
6WZ	74	6ZI	22
6CV	59	6EZ	21
6ZZ	54	6HS	20
6WV	47	6RO	20
6BC	38	6S	21
6BS	34	6JP	19
6RF	34	6JW	18
6RT	34	6AP	18
6RW	33	6KW	18
6CC	32	6MR	17
6UF	30		

Tasmania			
VK7GM	316	VK7RX	98
7JO	314	7HB	89
7OM	313	7CA	89
7DY	294	7B	87
7WA	286	7RM	62
7DR	224	7AG	59
7YU	216	7BR	55
7RL	165	7AL	51
7LZ	143	7BJ	44
7SD	140	7JK	41
7PJ	140	7LE	42
7DS	90	7RT	40
		7KM	39

**LISTENERS' LOGS**  
 F. H. Price ..... 656 D. Rankine ..... 178  
 N. G. Clarke ..... 585 E. W. Trebilcock 58

3ARI-R. M. Tutton, 65 Humfray St., Ballarat.  
 3ATS-K. E. Semmler, Station: "Wynua," Murton, Postal: Box 26, Murton.  
 3ZAL-R. A. Foot, 43 Munro St., Ascot Vale.  
 3ZAX-R. McPherson, 43 Ballarat Rd., Footscray, W.V.  
 3ZAY-D. F. Cooper, St. Mary's Vicarage, Glen Eira Rd., Caulfield.  
 3ZAZ-A. W. D. Wilson, "Bundoran," Glen-thompson.

**Queensland**  
 4EN-E. D. Neale, 38 Felix St., Woolloowin, N.S.  
 Brisbane.  
 4SO-J. J. O'Rourke, 41 Robertson Ave., Mar-gate Beach.  
 4ZAR-N. A. Roberts, 41 Kent St., Rockhampton.

**South Australia**  
 5RL-R. L. Larsson, George Rd., Atholstone.  
 5TS-Dept. of Civil Aviation Technicians Training School, Adelaide.  
 5ZC-E. L. Murray, 55 Dover St., Unley.  
 5ZAE-A. E. R. Wood, 9 Edwin Ter., Gilberton, Adelaide.

**Western Australia**  
 6ZAB-H. Iffla, 32 Boulder Rd., Kalgoorlie.  
 6ZAD-R. D. Deverell, 20 Streatley Rd., River-  
 vale.  
 6ZAE-L. K. Eorp, 83 Railway Rd., Kalamunda.  
 6ZAK-D. J. Knox, Station: Railway Cottage, Subaco; Postal: Box 15, Subaco.  
 6ZAT-L. N. Tate, 28 Kilchener Ave., Bayswater.

**Tasmania**  
 7ZAD-R. D. Nicholls, 30 Pearl St., Wivenhoe.  
 7ZAM-J. R. Milway, Cottage 68, Tarraleah.

**Territories**  
 9BP-P. B. O'Connor, Station: Third St., Bar-  
 ock, Port Moresby; Postal: C/o. P.O.  
 Box 38, Port Moresby.  
 9CR-C. W. H. Rasmussen, C/o. Australian  
 M.A.P. Building, Wewak.  
 9ZAL-R. F. Lloyd, Dept. of Works, Single  
 Men's Quarters, Paga Hill, Moresby.

## ALTERATIONS

**New South Wales**  
 2CG-476 President Ave., Kirrawee, via Suth-  
 erland.  
 2ZS-28 Ella Street, Adamstown, Newcastle.  
 2ZA-H. H. Hough, Road 1, Carrington.  
 2ZS-S.S. "Iron Derby," C/o. B.H.P. Ltd.,  
 Newcastle.  
 2ZC-99 Flora Street, Sutherland.  
 2AEI-Sutton, King St., Narrandera; Postal:  
 P.O. Box 118, Narrandera.  
 2AFX-15 Harris Street, Maryville.  
 2ASL-369 Sydney Rd., Balgowlah.  
 2AWP-Wirralpa, Hernani, via Armidale.

**Victoria**  
 3EZ-252 Waiora Road, Macleod.  
 3IR-100 McLean Street, Yarrowonga.  
 3NO-7 Munro Street, Macleod.  
 3AKC-31 Irving Street, Wangaratta.  
 3AFN-Boldings Rd., North Hazelwood, via  
 Morwell.  
 3AWN-302a Park Street, South Melbourne.  
 3ZAF-164 Middleborough Road, Blackburn.

**Queensland**  
 4DG-Portable: 18 Griffiths Street, New Farm.

**South Australia**  
 5CX-51 Murray Street, Lower Mitcham.  
 5ZD-Main South Road, Reynella.  
 5FN-14 Fonthill Court, North Salisbury.  
 5OK-134 Ninth Street, Salisbury.

**Western Australia**  
 6LK-161 Wylam Road, Cheetara, Collie.  
 6GL-28 Withnell Street, East Victoria Park.

**Tasmania**  
 7WI-Station: 147 Liverpool St., Hobart; Postal:  
 G.P.O., Box 371B, Hobart.

## DELETIONS (September)

New South Wales: VKs 2NB (now operating  
 under VK2LP), 2OZ (now operating under  
 VK2ADCI), 2ANB, 2APG, 2AVH (now operating  
 under VK3VB), 2AXU (now operating under  
 VK3XU).

Victoria: VKs 3OK, 3AWD.  
 Queensland: VKs 4M1, 4WP.  
 South Australia: VKs 5AV, 5BI, 5OU.  
 Western Australia: VK6WH.  
 Territories: VK9AD.

## DELETIONS (October)

New South Wales: VKs 2RI (now operating  
 under VK3ARI), 2WB, 2ABK, 2AIW, 2AGL.  
 Queensland: VK4MU.  
 South Australia: VKs 5DE (now operating  
 under VK2ADI), 5PC.

Territories: VK9YV (now operating under  
 VK2AIR).

# N.S.W. SOUTH WESTERN ZONE CONVENTION

TUMUT, OCTOBER 30-31

This Zone Convention was very well attended and good weather was experienced; a good time was had by all and the Committee of the Zone would like to extend their thanks to all who made the trip, with a special mention for the Newcastle boys accompanied by 2EO.

On Saturday afternoon we got away to a good start with an organised tour of the beauty spots of Tumut, the visitors being most impressed with the beauty spots of the district and the splendid panorama. The evening programme was also a success, starting off with the opening of the Convention by the President of the N.S.W. Division, Jim 2YC, who officially welcomed all visitors. Films were shown by Alf 2BW, from Wagga. Next we had the novelty events such as Pick a Voice, Pick a Tune, and Pick a Box for which Geoff 2BQ did a good job as compere. Further films were shown by 2BW, at the conclusion of which we were shown some really fine slides of the Snowy River Scheme and views of Tumut and district by Mr. Dick Leck, Fire Officer of the Forestry Dept. stationed at Tumut. A very enjoyable evening was concluded with a fine supper, all then adjourned to hotels and homes a little tired after the day's activity.

Sunday commenced with a 144 Mc. Tx Hunt; 2ZAA operated the hidden Tx. Much to the surprise of everyone, the Hunt was won by 2AJO (beam operator) and 2AQE (driver), who just managed to find the elusive tx just as 2ZAA announced that he was closing down. Other contestants found the going tough in the Tumut Hills, but perhaps we can call the win "beginners' luck." The next event held was the Scramble, which resulted in a win for 2EO and his Hunter Branch assistants.

The Convention concluded with afternoon tea and a general rag chew, many and varied being the conversations. Special mention must be made of the work of the ladies for their effort in serving the refreshments and thus our thanks go out to Mesdames Weeden, Savas and Misses Jean Piper and Rosalind Weeden.

Those present at the Convention were as follows: 2BW, Wagga; 2RS, 2EU, Albany; 2YC, 2EO, 2VC, 2YT, 2LQ, 2MI, 2GT, 2IQ, Sydney; 2OB, 2LT, 2AOR, Newcastle; 2PL, 2AXD, Griffith; 2AJO, 2AQE, Coolamon; 2BQ, 2PN, 2ZAA, Tumut; 2ARD and Andy Kelso, Cooma. Associates present were Stan Albe, Coolamon; E. Savage, B. Fleck, J. Lovell, J. Smith, L. Ashton, G. Harrison, K. Wilson, all from Griffith; and Ces Cronin, Sydney. Mesdames Moyer, Corbin, Weeden, Savage, Harriman, Cahill (Snr.), Phipps, Haberacht, Miss Piper and Miss Weeden.

Results of competitions: Pick a Tune 2ZAA, Pick a Tone Cec Cronin, Pick a Voice 2PL, 144 Mc. Hunt 2AJO/2AQE, Scramble 2EO and the Hunter Branch boys, winners of the Blindfold Contest, 2IQ 6 mins., 2YB 4 mins.

Finally we must congratulate Geoff 2BQ and Ross 2PN on a really fine job of organising this Convention, thanks from us all.



*radiotron*

*I* heard the bells on Christmas Day,  
Their old familiar carols play,  
And wild and sweet  
The words repeat,  
Of peace on earth,  
Goodwill to men.

*Longfellow.*

*With the Season's compliments from*



**AMALGAMATED WIRELESS VALVE COMPANY PTY. LTD.**



## FIFTY MEGACYCLES AND ABOVE

## NEW SOUTH WALES

The October meeting of the V.H.I. Group was attended by 47 members and visitors. The main interest of the evening was a resume of the Spring Field Day activities held on October 3. Bob 20A mapped out the various routes and locations of all stations taking part in the relay, while John 2ANF gave a word picture of the proceedings for the day giving details of times taken to pass the message through to VK3WI and VK3, together with other points of interest which had been conveyed to him from 2WH and other country stations.

The Divisional President, Jim ZYC, then read the news item that the A.B.C. had included in their news bulletin. This was followed by recording on tape a brief description by each station operator present, who had taken part in the hook-up, of their gear used, location, contacts made, stations heard, weather conditions, and other points of interest.

The Chairman of the V.h.f. Group, Perce 2AFQ, read and presented the Divisional President Jim 2YC with an official record of the event. The remaining portion of the tape was devoted to comments from those who did not actually take part in the hook-up. A re-play of the tape has since been heard by members who agree that it is a very good recording which will be sent to any zone or group who would be interested.

A visitor to the meeting was Ian ZJI, who gave details of the Trafalgar Day celebrations to be held at Garden Island. Bob 20A agreed to take his 2 mx gear down to give an additional frequency for ZZAN to operate on in the radio section of the display. The result was very pleasing, contacts with a number of 2 mx home, portable and, as Ted 2ABO classed himself, "mobile marine" while operating on a launch cruising around the harbour. Appreciation has been received from the Navy for the co-operation which members gave.

On Sunday night, 24th October, a one-hour 144 Mc. Scramble was held and resulted in 24 stations taking part. The results were 2AJZ, 2ANF (21); 2JX, 2XX, 2CE (20); 2HE, 2APQ (19); 2AOA (18); 2LG, 2ALO (17); 2ALJ, 2WJ, 2BA (15); 2HO, 2ZK (14); 2PF, 2ACK (13). This was a very good effort as Hugo 2WH, at Forbes, and Doug 2ASA, at Wyong, joined in. Maybe we will be soon able to hold a State wide Scramble.

On Sunday, 31st October, a 2 mnx link was established between Sydney and Tumut where the South Western Zone were holding their Convention. This proved that a reliable link can be established from Sydney to Forbes, to Tumut and return without any difficulty.

With the increased activity in country areas, those operating in Sydney and near Sydney areas are reminded of the gentleman's agreement to keep the portion of the band from 144 to 144.1 Mc. free for country stations who wish to contact Sydney, as a strong local station would blanket a weak signal and might prevent some of the country stations from making a low power contact. Country stations are asked to use the following portion of the band: 2WH at Forbes, 3AGY Newcastle, 2GU Canberra.

50 Mc. has become a little more active. Ted 2XX now has his 6 mx beam on top of his new tower and is renewing old contacts, while 2HO, 2HE, 2JH, 2ABH, and 2ANF are now operating on the band.

Here is a note from Adrian 2HE who suggests that in view of the fact that a considerable number of stations throughout Australia and New Zealand operate only on 6 and 2 mx, a plea is made to fully exploit the 6 mx band openings before and after the Ross Hull Contest so that an opportunity is afforded for Interstate exchange of ideas and discussion on the year's activities on the v.h.f. band.

In regard to further long-distance 2 mx links, the V.h.f. Group would like to hear from stations who would take part in a northern link through to VK4. So what about it Newcastle and points north? Maybe we will be able to put a link into Yurrango similar to the one to Tumut.

We hear from Hugo that 2ALX at Bathurst is getting gear together for 2 mx and should be on soon, while 2EI from Parkes is moving his QTH to Sydney. A new station welcomed to the band is Bob 2ZAR; he is located at Abbotsford and is using phase modulation, his frequency is approx. 144.5 Mc. We also hear that Bert 2CI and Stan 2EZ are interested in 2 mx mobile and will soon be taking part in

Sid 2AVK at Katoomba has his 2 mrx beam and rx in operation and is working on his 100w. tx. We will be pleased to hear Sid back on the band. I would like to have more news from the country districts for inclusion in these notes, so what about it chaps?—2APQ.

## VICTORIA

The highlight of the v.h.f. activity in Victoria was the special Fox Hunt arranged for members of both the Upper and Lower divisions. Our members, together with representatives of the Press and the A.B.C. participated. Several flashlight photographs were taken. The fox was seen by the press and interviewed by the A.B.C. reporter. Two short hunts were arranged for this occasion with our visitors disturbed between the fox car 3LN and the fox car 3JY. The 3JY was a Victorian Parliamentarian changed positions for the second hunt so they could have the opportunity to see the fox. The fox was seen by the fox point of view. On the first run 3ZAA was successful, followed by 3ALY and the 3Y8-3ABA combination. Jack 3VZ, with the members of the 3Y8-3ABA combination, was successful on the second run he made amends and was first to catch the fox, followed by 3Y8. The final combination was 3Y8-3ABA and 3Y8-3ABA demonstrated some d.e. activity. The evening concluded with a very excellent supper and the charming hospitality of Mrs. Bradshaw and her staff. The members of the committee are a valuable one for those present. The members in their reply of thanks congratulated the In-

A DX session is now held within the State every Thursday evening between 8 and 9 p.m. This is gradually gaining favour and twenty-stations were logged during that hour one week. The DX'ers were joined by the author for the first of a lecture by Graeme 3ZAA and Norm Dench, who demonstrated their mobile gear by working 3ALY mobile. A point of interest was the fact that Norm had placed the fields in parallel with the ground plane. The author used a 12v. car system and found that it produced 25 per cent. more voltage when wired in that way. It had run for 10 hours continuously during the last field day with no material damage to

3BQ has made several contacts with 7LE during the month. With rising temperatures and a big influx of stacked beams and 60w. finals installed during the winter, VK3 Group anticipate some really excellent DX on the band during the coming summer season. Nineteen stations are active in the Western District and some forty-eight in Melbourne so a great deal of activity seems to be assured.

The V.h.f. Group gave the lecture at the general meeting in November. 3LN started the night with reception of mobile station 3YS, then followed a demonstration of a small one tube converter into an AR7, this was described by Berry 3APB. Next a crystal locked converter was described by Jack 3AIK, then Jack 3VZ and Norm Dench described their mobile equipment. 3LN wound up the evening with a demonstration of a mobile antenna using a mini-meter projector on a screen. The many inquiries to the exhibitors showed the interest of the members.

The Group is planning a series of field days for the coming season, the exact dates will be notified in the 3W Sunday broadcasts. These field days make an excellent chance for realising the advantages of the VKO, and are a time when that you may place yourself when you go very much appreciated, and if the authority to do the same on the lower frequency bands was agreed, the use of the full range of frequencies would be a great advantage for the VKO operation. It is very nice to be able to make arrangements at the last minute. It is hoped to have the co-operation of the VKO during our field days this season and they have promised to put in a special broadcast for the VKO to be available on 144.0 for them.

The Z calls have now reached a total of sixteen and this has given a great lift to activity on 2 mx. Beams at 3BW, 3BQ and 3CI are being prepared for the 50 Mc. activity during the Ross Hull Contest.—3LN.

## SOUTH AUSTRALIA

By the time you receive these notes, the Ross Hull V.h.f. Contest will be under way. I hope that those who do participate in the Contest will forward their logs, even if for checking purposes only. The Certificates are well worthwhile having, so into the fray chaps and win your spurs.

Now that the limited licenses are being issued, it may be pertinent to have some sort of Federal Contest which would cater for those chaps who are confined to the frequencies above 144 Mc. Any ideas regarding that will be welcomed. It may be possible perhaps to run it concurrently with the Ross Hull since that does not include the bands above 54 Mc.

VK5 is to have an active v.h.f. operator at Alice Springs with the shift of Tom 57L from Renmark to that domicile. That opens the question of the Northern Territory as one of

the necessary contacts for 6 mx W.A.S. and no doubt Tom will be almost morally obliged to put a signal on 6 mx (beamed to VK5 of course!). I can hear Tom's reply now, "Give me the gear and I'll work anybody!" Well you never know Tom!

My shaftbot took 576 Mc. fell to earth and Bruce 60R phoned me some details of his work. He had a 50 pf capacitor in the circuit made a pic for somebody to come on to the band and work him. Brian SCA has had the working. Bob 3PU also, so surely someone can get the frequency. I found a transformer with one as a super-range rx by unserting the grid connection and connecting a 2 meg. resistor across the grid. The 50 pf capacitor in the circuit forms the plate line. A 50 pf. mica condenser bypasses across the resistor in the usual super-range way. The h.t. is controlled by the potentiometer. The 50 pf. capacitor is connected to the audio transformer is fed to a two stage a.f. amplifier. This amplifier becomes the modulator and the 50 pf. capacitor is connected to the antenna and a separate unit has been modified for that purpose. The best value of grid leak appears to be between 4K and 5K, with a couple of meg. across the grid. The 50 pf. capacitor in the transformer feeds modulator and tx supply in the usual balanced arrangement that Doc 5MD uses. The 50 pf. capacitor element that completes Bruce's set-up.

Heard Ron 5MK and Clem 5GL working cross band with Ron testing out his new 2 mx converter. Must be working fairly well Ron a you seemed to cover town easily.

The VK3 Z calls are steadily mounting and I am hoping to welcome Carl Spaggiata to the ranks if the powers do the right thing - all we hope Carl 5MM is that the VK's went all right. And the keen one is Ray, Tucker brother, a little coaching in the right direction can bring good results. Ray 5BT has been busy lately with that side of life which brings in the bacon so has not too much to report.

It has been suggested that one of the general meeting nights be set aside for a display of members' gear. As I shall soon have to be thinking about next year's programme I would welcome anyone who is clearly interested in the main, much from the study of v.h.f. equipment, where there is plenty of room for individuality. One thing comes to mind. I had not fully realised the value of neutralising an r.f. stage to reduce the noise until I saw the way it was done and the simplicity of it all and heard the remarkable difference that it made to the signal. ANYONE who'd like to see what I do you think about that idea? SXW.

## WESTERN AUSTRALIA

50 Mc.: Not the least of the attractions of 50 Mc. of late has been quite a burst of mobile activity. Both 6TR and 6WJ have gone into the mobile class and have been very successful. Quite a lot of midnight oil has been burned on the project and I seem to remember hearing about work carrying on till 0430 hours one night. The 6TR is a 100 watt mobile transmitter, names, no pack drill! Tx's in use both employ 6B5's in the p.a.; plate and screen and clamp tube modulation respectively. 6TR is using a 6B5 in the p.a. and a 6X4 in the detector and radio, tuning from 550-1600 Kc. to cover approx. 50-51 Mc. Works out really well too - a spot of car-to-car mobile work should be in the offing.

Jack GGB has been joining in the mobile tests and has been trying out a very high grade latex microphone. GBS has been very silent at late, but Sid is busy with shift work, etc., and is not in the office. He is also in the office, e.g. 2200-0200 and the like. A trip to VK5 for Sid should be coming off shortly, so maybe the v.b. fraternity in Adelaide will have a visitor. GBS has been tied up with matters other than the mobile tests, but he is still in the office. Rolo will be in the thick of it once again. He has been threatening a new tower to elevate the 144 Mc. and 288 Mc. beams, and this may well materialise ere the end of the summer.

Nothing heard yet of 6NF on the band though Norm has been close to emitting a signal for some time now. 6FB having converter troubles  
(Continued on Page 16)

## STOP PRESS!

## EXPLOSION AT LOXTON

The Manager of the Loxton Co-operative Winery and Distillery Ltd., Alexander Wainwright Kelly, VK5XO, 42, married, was killed and two men injured, one seriously, when a 14,000 gallon vat containing 8,500 gallons of overproof spirit exploded about 2.45 p.m. on Tuesday.

The blast, believed to have been touched off by a spark from a welding outfit, blew the top off the 15 ft. high vat, and hurled VK5XO about 60 ft. to the ground, killing him instantly. VK5XO was standing on top of the vat, supervising the work.





# SHORT WAVE LISTENERS' SECTION\* FIFTY KC. AND ABOVE

(Continued from Page 14)

**Australian Short Wave Listeners! Are you interested in making this section of the magazine really worth while? If you do, forward your reports to the person responsible for the compilation of these notes.—Editor.**

**News on the Bands.**—First of all I would like to welcome two new reporters for this column and P. and E. who are both from VK2. First of all a 12-year-old budding Amateur, Stewart Little, of Belmont, N.S.W. Thanks for the reports Stewart and do hope to receive more from you in the future. Stewart's rx is a Bendix MN26C with a 3-tube converter ahead of it. It has a 6AK3 r.f., 6BE6 mixer and 6CA osc. The antenna in use is two half waves in phase on 20 mc and seems to favour mid Pacific and JA land.

Our second VK2 correspondent is Gordon J. S. Hepburn, of Punchbowl, N.S.W. Gordon has been an s.w.l. since 1929 and his first QSL card was from VK4LW (C. R. Morris) of Rosevale, Brisbane, dated 30th June, 1930. Gordon's rx is a commercial 5 valve dual wave with a captain unit as the antenna. Well good listening to both Stewart and Gordon, and hope to receive regular reports from you both.

20 mc: From Stewart Little the following were heard in VK2 at good level: KAEH, JAAB, ZL, WK9K, VKIAC, KATJM, KHAF, VSCWC, GM3, VK9A, WIATE, GHSIN, WIRYIC, HSI, OESWD, OZTDB, KWGBB, VKGKK (very unusual to hear VKs at Belmont, N.S.W.), GFGS, VKEMG, KHAF, KHA6V, KHEKS (on s.s.c.), KAZLK, OEI3SD, EIW, GBLT, LASYE, GSGP, VE, VS. From Gerry Lane the following: VK9AB, KG6SB, LURCG, VKGGS. From my location I heard the following: DL3AF, WEAJA, KAJ2, KAGB, ZK0BX, KAZLO, EA2JB, KAGJ, KCRDB, KR8AA, VR2CK, LUDSL, KAZYA, LUTAA, KG2GB, KF2FM, ZM8AT, ZL1BY, VSBZ, ZL3ASD, KRA3B, DL4UF, WGBEX, ZL3OP, ZAZA, ZC0BL, KAILI, PY3PY, W6WGX, Z33F, KR8AZ, W2BCU.

40 mc: From Gerry HPFSL (RS, S8) here have heard W2, 3, 6, 0 on phone.

80 mc: Quite a few ZLs including the ZL broadcast.

From Edwin Wilson, of Alphington, I received the following information from Radio Japan: 0900-1000 G.M.T., programme beamed to Australia and New Zealand, to JOA3, JOBA, JOA6. Frequency of tx's: JOA3 9095 Kc. (30.94

metres); JOBA 11780 Kc. (24.47 metres); JOA6 15135 Kc. (19.82 metres); JOB3 7180 Kc. (41.78 metres). All reports should be sent to the National Broadcasting Department, Nippon, Hoso Kyokai, Japan.

From Graeme Hutchins, of Radio Australia, I received the following: The Voice of the United Nations Command tx's are at Korea using 2500 watts in conjunction with a 500 watt tx at Seoul on 590 Kc. They are on the air between 1100-1800 and 1800-2200 hours. Stations on from 1100-1600 hours are JBD 5005 Kc., JBD2 9560 Kc., these are known as the "A" network. The "V" network relay on 690 Kc., 830 Kc., 870 Kc., 1000 Kc., 1050 Kc. and 1330 Kc. between 1435-1500 G.M.T. From 1505-1635 G.M.T., the "C" network operates on 360 Kc., 690 Kc., 830 Kc. and 4780 Kc. JBD2 is on the air throughout the 1100-2200 hours broadcast. Korean Broadcasting System the Voice of the United Nations Command Service between 1330-1500 G.M.T. We thank Graeme, of Radio Australia, for the above information.

A last minute schedule was received from Bob Citroen, of Holland. Bob is now resident in VK3 land and he sent along the following schedule for PCJ, the Happy Station in the Netherlands. PCJ is situated in Hilversum, Holland, and operates on 18.58, 18.55, 18.71 and 18.55 metres. They broadcast to Australia between 1030-1200 G.M.T. on Sundays only. The English programmes to Australia on week-days are between 0945-1025 G.M.T. on 18.88, 18.45 and 18.71 metres. The above programme is effective from November, 1954, to April, 1955. Bob states that PCJ will probably be operating on higher power, 100kw, either late in December, or early in the new year. PCJ verifies by QSL card and is one worth having. Their address is Edward Starts Radio PCJ, The Happy Station, Wireldomeop, Box 137, Hilversum, Holland. Thanks Bob for the above schedule and hope you receive good signals from home.

Indonesia broadcasts to Australia in both English and Dutch on 17860 Kc. between 1100-1200 G.M.T. So chaps, that concludes this month's loggings. Many thanks to those chaps who sent in reports for last month.

On Tuesday, October 26, members of the VK3 Division of the S.W.L. Group met in the club-rooms at 191 Queen St. In the chair was President Len Foynter, Secretary Gerrard Lane, Col 3FO and Arthur SAHD.

The VK3 Division welcomes to the Group Aussie Thompson. I would like to wish you all the best and good listening Aussie. At the conclusion of general business, Gerry Lane gave a short talk on QSLing and the correct way for s.w.l.'s to do it.

and is engaged in a re-build there. 6AW has been using his AR301 type rx with a view to a conversion job for six m.x., but so date no progress. For Denis' activities, send the two m.x. column! GCC now sports a new plate and screen modulator, which is a considerable improvement over the old one, even if it only allows Frank to back off the 600 or so volts on the 815! GDW in Bruce Brock has been making and tuning his usual 60 mc. beam over the 120 miles to Perth. GHK does not now have to rush outside armed with footprints and spanner to turn the beam around—just the flick of a switch!

144 Mc.: Quite a deal of interest being shown in this band of late and calls active at various levels include 6AW, 6BBO, 6JTT, 6OR, 6GRT, 6WT, 6KW, 6HC, 6HK, 6ZAA and 6ZAZ. In an interesting series of tests with 6AW at 6HK's QTH, the advantage of using a narrow pass filter in the I.F. channel was clearly demonstrated. Using a two m.x rx with 30 Mc. i.f. strip, signals were not able to be copied due to high noise level of both his and mine. However on feeding the 30 Mc. output into a communications rx with an i.f. of 175 Kc. the signal to noise was improved and the signals "stuck out like a sore thumb" and were easily read. So it looks as if these AR301 jobs are well worth the trouble. It is most appointing results achieved by some of the boys to date.

6ZAZ has been having more strife with the 6AW, but of the last few days has been working very nicely as a straight p.a. 6AW has changed his beam to 3-el. close spaced and altered the matching system with greatly improved results. Denis has since been working on the 6ZAZ, nothing being audible before the alteration. 6OR has been heard on the band again with a fine signal from home. 6GRT is working on a new xtal controlled converter, but has not got time working to his satisfaction yet. Continued work by GDW and 6BBO has resulted in recently with signals peaking 5-7 over the 120 miles. On this occasion conditions provided better signals on peaks than 50 Mc. at the same time although signals were more severe at the higher frequency—GHK.

## TASMANIA

The highlight of v.h.f. activity in Tasmania this month was the visit of 7LE to Mt. Arthur. Len, together with TCA and TML, was working on the Tasmanian v.h.f. link and the telephone link. Len decided to instal his 144 Mc. gear on the site with the idea of working into VK3, consequently visiting the site on 19th arriving at location, 7LE had contacted 7LZ in Launceston. This was followed by an excellent contact with 7AB at Devonport—a distance of 80 miles.

On 20th October, 7LE contacted 7AB at 2015 hours and at 2104 hours contact was made with 3BQ on Al. signals were RS in both bands. 7LE then heard 3BW but could not make contact, possibly because Len's frequency was 146.5 Mc. 3BQ contacted 3BW and at 2141 hours, 3BW contacted 7LE. 3BW used A3 and was received by 7LE at RS 87, whilst 7LE used A1 and was RS 85 at Portarlinton. These contacts were approximately 270 miles and 265 miles respectively.

7LE's tx had an input of 12w, and his antenna was a 4-el. beam 25 ft. high, the location was 1750 ft. a.s.l.

The following week Len was scheduled to make a two-day trip to Flinders Island, however bad weather interrupted air transport and Len was only able to operate from the mainland to the island. For this trip he used his "portable" portable rig with an input of 5w, and left his 144 Mc. gear in the car on the mainland. TCA and TML, transmitting from a site 40 ft. high and under extremely adverse conditions, contact was made with Mt. Arthur with signals 86 both ends on A3, a distance of 82 miles. This was the first v.h.f. contact between the Bass Strait islands and Tasmania and it is hoped that now TAC, who is in the command of Flinders Island, has seen what can be done he might at last get started; if so, it would give a tremendous impetus to v.h.f. activity both here and on the mainland.

Actual operating on the VK3/VK7 v.h.f. telephone link has shown that the best chance for a VK3/VK7 144 Mc. contact is at 2000 hours whilst the worst period is around 1400 hours.

No details have been received here in respect to the stations which will be operating on 50 Mc. this season in Launceston and 7LZ, both expect to be active, whilst TXW is also a likely starter. It is hoped that Chris will be able to give several mainland stations a view of VK7 contact. As the season should be well under way before these notes are read, nothing more can be said other than to wish all stations "good hunting"—7LZ.

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# FEDERAL, QSL, and DIVISIONAL NOTES

**FEDERAL**  
**Fed. Director:** W. R. Gronow, VK3WG.  
**Fed. Secretary:** L. D. Bowie, VK3DU, Box 2611W, G.P.O., Melbourne.

**QSL Bureau:** H. E. Jones, VK3JR, 23 Landale Street, Hill, Melb.  
**DX C.C. Manager:** G. I. Morris, VK3BZ, 50 Eighth Street, Parkdale, Vic.

**NEW SOUTH WALES**  
**President:** Jim Corbin, VK2YC.  
**Secretary:** Harry Hickin, VK3ACH, Box 1734 G.P.O., Sydney.

**Meeting Night:** Fourth Friday of each month at Science House, Gloucester Street, Sydney.  
**Divisional Sub-Editor:** Tod Whitting, VK3ACD, 16 Loudon Street, Five Dock.  
**QSL Bureau:** J. B. Corbin, VK2YC, 78 Maloney St., Eastlake, Sydney (Inwards and Outwards).

**Zone Correspondents:** North Coast and Tablelands: Noel Hanson, VK3AH, Ryan Ave., West Kempsey; Newcastle: Ron McD., Stuart, VK3ASJ, 88 Dunbar St., Stockton; Castleside and Lakes: Harry Hawkins, VK3YL, 27 Comford St., Central West; W. S. Edge, VK3AJQ, Wallace St., Coolamon; St. George: Chas. Coyle, VK2KY, 64 Carlton Cres., Kogarah; Western Suburbs: Barry White, VK3AAB, 33 Flavelle St., Concord.

## FEDERAL

### A.O.C.P. AND MORSE CODE

For some time Federal Executive has been making an investigation into the examination of candidates by the Amateur Radio Association for the Amateur Operator's Certificate of Proficiency. This has necessitated a good deal of research and the checking of various results. In this particular phase of the work, the Amateur Administration has given splendid co-operation, in supplying details and summaries on which the following conclusions have been based.

The Morse Section, both receiving and sending, presents the greatest difficulty to candidates, and getting the standard, the satisfaction is the difficulty, but it is worthy of note that sending is often well below pass standard.

Regulations are, for the most part, a satisfactory standard, while the Theory presents only moderate difficulty.

Executive suggests, therefore, that those who are engaged in the instruction of candidates for the A.O.C.P. should give some consideration to allotting more time to Code Practice, both sending and receiving, and that students be encouraged to do more at home, utilising the transmissions to be heard on the s.w. bands.

### IT PAYS TO ADVERTISE!

Following an advertisement in "A.R." seeking the services of an Actuary, Federal Executive is happy to announce that Mr. W. Falconer, VK3JAW, has offered his assistance. Bill's generous task will be to analyse the results of the R.D. Contest of the past, and develop a new formula, which will promote more activity in the Contest and give all States an equal chance of winning.

It is interesting to note that Bill is one of eighteen actuaries in Melbourne, and probably the only one with a knowledge and understanding of band conditions. Members will recollect that the call VK3JAW was frequently heard on the bands some twelve months ago before Bill left for a trip abroad.

## FED. CONTEST COMMITTEE

The Contest Committee met this month at the QTH of the Chairman, Gordon SXU, and about the business of tidying up the results of the R.D. Contest, including correspondence. Opportunity is taken here to point out that the Contest Committee has been in touch with all correspondence between it and any Division should come from the Federal Councillor for that Division, although in larger measure correspondence and inquiries should be made of the Institute concerning contest matters.

A long discussion took place regarding the Ross Hall Memorial Contest and the present rules with a view to further improving same before next year's contest.

**VICTORIA**  
**President:** G. Dennis, VK3TF.  
**Secretary:** C. Gibson, VK3FO.

**Administrative Secretary:** Mrs. G. Pickering, Law Court Chambers, 191 Queen St., Melbourne.  
**Meeting Night:** First Wednesday of each month at the Radio School, Melb. Technical College.  
**Divisional Sub-Editor:** K. E. Pincoff, VK3AFI, 14 Ashcombe St., Richmond.  
**QSL Bureau:** Inwards—Graham Roper, VK3BZ, 26 Lucas St., South Caulfield; Vic. Outwards—Frank O'Dwyer, VK3OF, 190 Thomas St., Hampton, S. Vic.

**Zone Correspondents:** Central Western: W. J. Kincaid, VK3AKW, Magdala, Lubeck; South Western: W. Wines, 11 Redford St., Warrnambool; E. and G. Giddings, VK3IANQ, 8 Nelson St., Warrnambool; North Eastern: A. D. Buchanan, VK3DF, "Boonoodah", Warrnambool; Far North Western: M. Folke, VK3GZ, 101 Eamon Ave., Mildura; Eastern: C. J. Arnold, VK3AJA, McAlister St., Stratford; North Western: C. Case, VK3ACE, Cumming Ave., Birchip; S.W. Group: John Wilson, 31 Raymond St., Alphington, N.30.

## QUEENSLAND

**President:** Harold Murphy, VK4HM.  
**Secretary:** W. A. Young, VK4YA, Box 638, G.P.O., Brisbane.

**Meeting Night:** Third Friday of each month at the Royal Geographical Society Rooms, Ann Street, City.

**Divisional Sub-Editor:** J. T. Hope, VK4KL, Royal Parade, St. John's Wood, Ashgrove.  
**QSL Bureau:** Inwards—J. Files, VK4JF, Wanda St., Wanda; Outwards—Miss Clair O'Brien, 93 Jardine St., Stafford.

The National Field Day was discussed; because Federal policy dictates that alterations to rules must be notified to all Divisions three months before the contest, insufficient time remains to make any alterations this year. However, Federal Council's directive in this regard will receive attention during the forthcoming year.

General discussion then took place and it was agreed to consider the certificates for the old Committee and handle the few remaining 1953 VK-ZL Contest Certificates, and it was also decided to issue the certificates for all past contests would be straightened out. Should any Amateur still be in the position of not having received a certificate to which he is entitled, would he contact either his Division or the Contest Committee direct.

A statistical summary of the R.D. Contests by Division and District is being actively handled over to Contest Manager, Jim SFO, who is employed in the Statistical Department of the S.A. Government. He will report back to the Committee at the next meeting.

The matter of publicity for W.I.A. Contests and the lack of information available to the Committee regarding overseas contests was discussed at length, and it was decided to take this matter up with F.E.

I.F.E. Committee newly constituted Federal Contest Committee has done a sterling job considering all the handicaps it has had to overcome. Taking office in a honorary office in a nation-wide organisation such as the Institute inevitably leads to some confusion and misunderstanding at the outset. The Federal Council, produced a Manual for the Guidance of Federal Councillors to overcome a similar problem to that with which the Contest Committee is now confronted. A booklet is now being prepared for the guidance of Contest Committee in which many suggestions of the present Committee will be incorporated. The introduction of a coherent and straight forward "Terms of Reference" and Constitution, complete and procedure, will help to eliminate any misunderstandings in the future. In the meantime we sympathise with the members of the present Committee and applaud them for their strenuous efforts to make this year's contests a real success.

## FEDERAL QSL BUREAU

### RAT JONES, VK3BJ, MANAGER

Referring to a par. in these notes in the November Issue, additional information on Fletcher Island, Ice Island T3, has come to hand. This floating ice island was discovered in 1960 and found to be large enough for human habitation. Although the island was constantly moving, its approximate position was about 80 miles from the geographical North Pole. The first personnel landed there in March, 1962, and the island was abandoned by the Ameri-

**SOUTH AUSTRALIA**  
**President:** G. M. Bowen, VK5XU.  
**Secretary:** R. G. Harris, VK3RR, Box 1234K, G.P.O., Adelaide. Telephone: J 1151.  
**Meeting Night:** Second Tuesday of each month at the Radio School, Adelaide.  
**Divisional Sub-Editor:** W. W. Parsons, VK5PS, 10 Victoria Avenue, Rose Park.  
**QSL Bureau:** Inwards—J. Edwards, 8 Brook St., West Mitcham, South Aus. (Inwards and Outwards).

## WESTERN AUSTRALIA

**President:** F. A. T. Tredrea, VK8FT.  
**Secretary:** J. Mead, VK6LJ, Box N1002, G.P.O., Perth.  
**Meeting Place:** Perth Technical College Annex, Mount Bay Road, Perth.  
**Meeting Night:** Third Tuesday of the month.  
**Divisional Sub-Editor:** D. E. Graham, VK6KH, 110 Edinboro St., Mt. Hawthorn.  
**QSL Bureau:** Jim Rumble, VK6RU, Box 7319, Perth, West. Aus. (Inwards and Outwards).

## TASMANIA

**President:** L. E. Edwards, VK5LE.  
**Secretary:** W. G. Tait, Box 371B, G.P.O. Hobart.  
**Meeting Night:** First Wednesday of each month at the W.I.A. Club Room, 147 Liverpool Street, Hobart.  
**Divisional Sub-Editor:** L. E. Edwards, VK5LE, 126 Strickland Ave., Hobart.  
**QSL Bureau:** Ray Calvert, VK5TKT, Box 371B, G.P.O., Hobart.  
**Zone Correspondents:** Northern: M. A. Chaplin, VK7KA, 56 Trevallyn Rd., Launceston; North Western: C. K. Wilson, 11 Cunningham St., Burnie, Tasmania.

cans on 22nd May, 1954. Life on T3 was not pleasant. Seldom was the sky free of dreary fog and haze. Gale force winds and extremely low temperatures had to be battled by those who were on duty.

Geoff Warner, ex-VK5GW, who has been abroad for some months, duly arrived back in VK on Wednesday night after a brief stay in VK3 will settle down in VK3 and be heard from that location.

Jim HS1D, ex-TASFA, is leaving Bangkok, Siam, shortly on return to U.S.A. He does not know whether his successor is an Amateur or not. Jim expects to depart on 1st February. GAGTV has a special card for stations to whom he has sent a previous QSL and not had any reply. The repeat card is printed on a special kind of shiny paper with a wavy one side rough and the other smooth. The paper is perforated at each end, apparently for tearing from a roll. One end, like the maker's inscription, "Sprim's Germicide."

One of the many Amateurs engaged in missionary work throughout the world is the Rev. Walter Sandman, CEABX. He is a Roman Catholic priest stationed at Molina in Chile and he is active on both 7 and 14 Mc. w.c. and seeks VK contact. He uses a 400w. tx, 827.5 kc. and a full wave Hertz.

A nifty QSL card from EA5DF, located in Rio de Janeiro, is depicting a tropical beach. The operator is Cesar Yague, ex-EA8BI. He modestly says he is a first-class telegraphist and sound transmitter.

Treb, states he recently received the largest QSL card ever. It is that of W2APF and measures 6 1/2" x 11". I am very happy that guy sent me a QSL. I am only slightly smaller than the renowned effort of "Radio Andorra". The latter effort is a modest 9 x 7 inches.

Len Schooley, W4SHE, Wheatland, Okla., U.S.A., recently received his novice ticket and call of WN5EGW at the ripe old age of 73 years.

The calendar reminds me that it is once again time to include a Xmas Greeting in these notes. For the 25th time it gives me great pleasure to wish you and yours a very Merry and a Happy Xmas and a healthful 1955. May the new year see no unclaimed cards left on hand! This goes for all Amateurs too.

## NEW SOUTH WALES

The general meeting of the N.S.W. Division was held under the chairmanship of the President on October 22 before a good attendance. After the necessary business had been dispensed with, the meeting was handed over to the lecturer, Mr. C. Burdwell, 21R, of the Marconi School of Wireless, who gave a most informative lecture on "The Importance of Fundamentals to Amateur Operators." During the lecture the Marconi School was shown the operation of a 100w. tx through its several stages and pointed out the desirable features



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Directivity—non-directional.  
Size—2½" spherical diameter.  
Connector—Standard international 3-pin.

**MIC 16**



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**MIC 35**



£2/15/-

substantially flat response from 50 to 5000 c.p.s.

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Output level:—55 db ref. 1 volt/dyne/cm<sup>2</sup>.  
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MIC 32 insert, £2/15/6; all others, £1/19/6.



(MIC 32 illustrated)

This omni-directional Microphone is robust in construction, with a pleasing appearance. Vibration, shock or low frequency wind noise will not affect the performance. The low frequency cut-off is dependent on the load resistance. The cut-off is given by the quotation,  $F = 80 \div R$ , where  $F$  = c.p.s.,  $R$  = megohms. An adaptor (floor mounting) is available at low extra cost.

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Output level = -50 db ref. 1 volt/dyne/cm<sup>2</sup>.  
Output impedance—equivalent to approximately 0.002 uF. (0.8 megohm at 100 cycles).  
Frequency response—substantially flat from 40 to 6000 c.p.s.  
Recommended load resistance—not less than 1 megohm, dependent on low frequency response.

**MIC 22**



£9/18/6

**MIC 28**



£5/19/6

Designed to give freedom of movement, this Microphone is small and non-directional. Housed in a soft moulded rubber case, which gives protection against shock, it is provided with a pin at the rear of the case for pinning to the lapel.

#### SPECIFICATION

Output level—approx. -55 db ref. 1 volt/dyne/cm<sup>2</sup>.  
Recommended load resistance—5 megohms.  
Frequency response—level throughout the whole of the audible spectrum.  
Capacity—0.0015 uF. at 1000 c.p.s.  
Impedance—100,000 ohms at 1000 c.p.s.  
Cord—6 ft. shielded cable.  
Size—1-9/16" wide x 2½" long x ¾" thick.

This Microphone has been designed for the high quality public address and home recording field. High sensitivity and flat characteristics are obtained by a specially designed acoustic filter. Housed in an attractive plastic case with an unexcelled response for its size and price. Unaffected by vibration, shock or low frequency wind noise. Omni-directional frequency response substantially flat from 30 to 7000 c.p.s.

**MIC 33**



£6/18/6

## MICROPHONE INSERTS



(MIC 23 illustrated)

# AMPLION (A'SIA) PTY. LTD.

EXCLUSIVE AGENTS:

SYDNEY, AUSTRALIA



which should be incorporated in any tx. ex-  
amined, and the inclusion of such  
features, and generally dealing with aspects  
of design. The attentive audience were informed  
also of the methods they should adopt in the  
transmission of their signals. The speaker,  
Mr. Bardwell was moved by 21Q, who praised  
the lecturer and thanked him for the lecture,  
and the speaker stated that the future of  
mentals in radio, as in other studies, are of  
the utmost importance. Nominations were called  
later to form a committee to organise the  
Transatlantic Contest, the following volunteered:  
2AGQ, 2AOJ, 21Q, 2ARW and Mr. Reedy.

The meeting closed near the 11th hour, so  
a number of the participants were seen outside  
the building by the usual group who gather  
there.

#### TRAFALGAR DAY

A fine display by the Royal Australian Navy  
was held at Garden Island, Sydney, on Trafal-  
gar Day, October 26, which was attended in  
indifferent weather by many thousands of  
people. There was much to see and the display  
set up by Naval personnel were of an interest-  
ing nature to young and old alike. A feature  
of the display was the setting up of an Am-  
ateur Radio demonstration (organised by Lieut-  
Commander G. Thrum, with the assistance of  
Ian 2ZU and a fine 144 Mc. demonstration by  
2AOA, and the following volunteers) which  
made many contacts on that band. Operating  
difficulties were many, owing to power require-  
ments, and the fact that the transmitter was  
not in the best of order. The following was the  
roster of operation, a fine demonstration of  
Amateur Radio was given to the large crowds  
who passed by the stand.

It was noticed that there was considerable  
interest displayed by the younger members of  
the crowd and questions were answered with  
regularity. Other Amateurs seen at the ex-  
hibit were 2KSS, 2EACD 2BZ, and 21Q, who  
at one time or another were heard from one  
of the stations. Operation was on 40, 20  
and 10 m. and the contacts made were all 100 per cent. A feature of the  
144 Mc. contacts was with 2ABO/MM who was  
being chasing the 144 Mc. band. The display  
was launched by the Hon. J. H. McEwen, a  
Lieut-Commander Thrum, who will be remembered  
for his work at VK2ZAN at Sydney  
showing a programme for the war, and the  
station more power and plenty of contacts  
than the cold sign recently cancelled.

-2ANP.

#### URUNGUA 1955

All are reminded that the North Coast  
Convention will be held at Urungua next Easter  
week-end, 1955. All are invited to welcome  
and the organisers wish to receive bookings for  
accommodation as soon as possible, so contact  
Zone Officer 2AHH, Organiser 2AVG, 2XO or  
2FTG. The programme for the convention and  
novel features are being arranged, details of  
which will be given in the near future, includ-  
ing a programme for the week-end. Don't miss  
this year's bigger and better Urungua.

#### SYDNEY AREA

Notes as usual are few and far between from  
the Sydney suburbs, and all we can glean  
are as follows, followed by some acceptable  
notes from Don 2NO. 2AFT has had trouble  
with a beam in the night. 2AGC and 2AGV  
fine signal Jack. 2FA strikes a bit of trouble  
at times, but still manages to make a few  
contacts. 21MC, 21Q, 21R, 21S, 21T, 21U, 21V,  
21W, 21X, 21Y, 21Z, 21AA, 21AB, 21AC, 21AD,  
21AE, 21AF, 21AG, 21AH, 21AI, 21AJ, 21AK,  
21AL, 21AM, 21AN, 21AO, 21AP, 21AQ, 21AR,  
21AS, 21AT, 21AU, 21AV, 21AW, 21AX, 21AY,  
21AZ, 21BA, 21BB, 21BC, 21BD, 21BE, 21BF,  
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21BN, 21BO, 21BP, 21BQ, 21BR, 21BS, 21BT,  
21BU, 21BV, 21BW, 21BX, 21BY, 21BZ, 21CA,  
21CB, 21CC, 21CD, 21CE, 21CF, 21CG, 21CH,  
21CI, 21CJ, 21CK, 21CL, 21CM, 21CN, 21CO,  
21CP, 21CQ, 21CR, 21CS, 21CT, 21CU, 21CV,  
21CW, 21CX, 21CY, 21CZ, 21DA, 21DB, 21DC,  
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21TX, 21TY, 21TZ, 21UA, 21UB, 21UC, 21UD,  
21UE, 21UF, 21UG, 21UH, 21UI, 21UJ, 21UK,  
21UL, 21UM, 21UN, 21UO, 21UP, 21UQ, 21UR,  
21US, 21UT, 21UU, 21UV, 21UW, 21UX, 21UY,  
21UZ, 21VA, 21VB, 21VC, 21VD, 21VE, 21VF,  
21VG, 21VH, 21VI, 21VJ, 21VK, 21VL, 21VM,  
21VN, 21VO, 21VP, 21VQ, 21VR, 21VS, 21VT,  
21VU, 21VV, 21VW, 21VX, 21VY, 21VZ, 21WA,  
21WB, 21WC, 21WD, 21WE, 21WF, 21WG, 21WH,  
21WI, 21WJ, 21WK, 21WL, 21WM, 21WN, 21WO,  
21WP, 21WQ, 21WR, 21WS, 21WT, 21WU, 21WV,  
21WW, 21WX, 21WY, 21WZ, 21XA, 21XB, 21XC,  
21XD, 21XE, 21XF, 21XG, 21XH, 21XI, 21XJ,  
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21YM, 21YN, 21YO, 21YP, 21YQ, 21YR, 21YS,  
21YT, 21YU, 21YV, 21YW, 21YX, 21YZ, 21ZA,  
21ZB, 21ZC, 21ZD, 21ZE, 21ZF, 21ZG, 21ZH,  
21ZI, 21ZJ, 21ZK, 21ZL, 21ZM, 21ZN, 21ZO,  
21ZP, 21ZQ, 21ZR, 21ZS, 21ZT, 21ZU, 21ZV,  
21ZW, 21ZX, 21ZY, 21ZZ, 21AA, 21AB, 21AC,  
21AD, 21AE, 21AF, 21AG, 21AH, 21AI, 21AJ,  
21AK, 21AL, 21AM, 21AN, 21AO, 21AP, 21AQ,  
21AR, 21AS, 21AT, 21AU, 21AV, 21AW, 21AX,  
21AY, 21AZ, 21BA, 21BB, 21BC, 21BD, 21BE,  
21BF, 21BG, 21BH, 21BI, 21BJ, 21BK, 21BL,  
21BM, 21BN, 21BO, 21BP, 21BQ, 21BR, 21BS,  
21BT, 21BU, 21BV, 21BW, 21BX, 21BY, 21BZ,  
21CA, 21CB, 21CC, 21CD, 21CE, 21CF, 21CG,  
21CH, 21CI, 21CJ, 21CK, 21CL, 21CM, 21CN,  
21CO, 21CP, 21CQ, 21CR, 21CS, 21CT, 21CU,  
21CV,

you can put the s.w.l. notes in with mine! That gives us four columns. What? There's more! Once again there is a mountain of QSL cards not being available. I'm not taking sides in this affair, but I would like to remind those who are coming to the Bureau of that there are many voluntary workers and there is a terrific amount of work involved. If for some reason or another these fellows cannot make it, then you may be the cards, what about offering them some assistance. Possibly if they had to spend less time sorting the things, they could then find time to come to the meeting. If they can't, maybe one of you would like to bring the pasteboards in for them. The ball is now in your court. May I make a suggestion by reading the Federal Contest Committee Notes on page 19 of November issue.

I hate having to refer you to the writings of my "Bosom Friend" (Bosom? Where's there must come tie up between that expression and the advert that went with the notes he had in the press, but for the moment it eludes me), but it contains some damned good advice. Que! That sure hurt. Now Pansy is in this discussion. It is to be hoped that the VK5 Council can see through his diabolical scheme to avoid paying his subs. Bet he had himself in mind when he wrote about the oldtimers last month. Whilst I'm in a betting mood, I've a hunch that Bud HZ and they sure are dead! He's off the air now—Ed.) that say he won't name the source of my copy of the "Advertiser" in the first place he selected.

I hear there is keen rivalry between 3SX and 3AHC in the shack-painting contest. Russell favours a different colour for each wall, whilst Harold is settled for all wall green, and a yellow ceiling; or is it other way round? Personally, I like "cement street grey" edged with "spider-web white" for the walls, and "bare iron" for the ceiling. In other words, "what use is a shack if you can't make a mess in it?"

The Technical Editor has saved up his salary from "A.R." for the last three months and is venturing in shiny, new vehicle. Sure! Sir, you do not intend to mount loops, beams, etc., on this shiny piece of "chicken bait." Aren't the notes in last month's issue "Pansy" too busy taking up "anent" the Hon. Fed. Sec. asked permission to go on the air this month. When I granted his request, I forgot to mention that he was to be at the Dinner and the Convention. Federal matters will, therefore, be held in abeyance until December. That's what? You're going to be on the air holiday then. Remind me to get on the school teaching racket some time.

That hard working body whose names are listed in this magazine, never seem to blow their own trumpet so I'm taking it on my own shovels to do a bit of blowing for them. On my calculations they devote something like 120 hours per month to their work, and in getting the magazine out. More often than not they work until well after midnight on the magazine, and at present they are flat out looking for ways and means of improving the mag. If anybody has any suggestions to make, drop a note to the Editor. I can assure you it will be acknowledged, even if I have to do it myself. Even more important is the flow of technical articles, without which there can be no mag. At all. In this regard, I would especially draw attention to the piece on page 17 of last month's copy concerning special issues. What about it fellows?

#### 80 METRE TRANSMITTER HUNT

The 80 mx tx Hunt held on Sunday, 17th October was a most interesting one, certainly from the point of view and truly baffled. Only one competitor, Reg 3ZAD arrived on the location without opening his sealed envelope. A fairly good number of competitors were seen standing off in various directions heading well away from Melbourne. However, to everyone's surprise the tx, which was hidden by Reg 3ZAD, was located in the Fitzroy Gardens in East Melbourne.

After about three-quarters of an hour the amateur competitors started to turn up at the Gardens with opened envelopes, but were informed that the tx had not yet been found and so then the fun started. Eric then let the wives and non-competitors into the secret. He had hidden the tx in a pram, complete with cushion, shawl and storm cover and most elaborate married couple heading the pram around the gardens. The aerial was wound around inside the pram and this accounted for the weak signal at the start. As can be imagined, the boys' field strength meters were giving very unusual signals as the pram was wheeled up and down the Gardens, at times making a complete circle around them. It was at least an hour later before Laurie 3ALY plucked up enough courage to ask to see the baby.

#### OBITUARY BOB DUNCAN

Members of the Victorian Division of the W.I.A. were shocked to learn of the sudden passing at a Private Hospital in East Malvern of Bob Duncan, of Murrumbidgee, on 2nd November, at the age of 65 years.

Bob was the Secretary of the Victorian Railways Institute Radio Club, VK3RI, for the past ten years and a most energetic worker in the interests of the Club and Amateur Radio.

Although Bob was not a licensed Amateur, his untiring efforts as reflected in his radio activities, and his cheery voice from VK3RI was a tradition on 50 Mc. and latterly on the 380 Mc. band.

He leaves a wife, three daughters and one son to mourn the loss of a husband and father. We extend to them our deepest sympathies and a large number of friends attended the funeral at the Springvale Crematorium.

In private life, Bob was a Class "A" Signalman in the Victorian Railways, a prominent Freemason, and a First World War veteran.

However, it was one of the funniest Tx Hunts ever experienced by the onlookers, as they watched the amazed expressions on the boys' faces as the meters gave what seemed to be very screwy signals when the pram passed within a few feet of them and it caused a great amusement to the onlookers to see the boys stepping most politely out of the way of the pram. The Hunt was attended by 46 of the gang, most of whom had a picnic together by the river at Studley Park after the Hunt had concluded. Congratulations to Eric for a most enjoyable afternoon and also congratulations to the married couple who wheeled the pram and who, somehow, managed to keep a straight face during the whole of the afternoon; they didn't give a thing away. Thanks Phil.

Our heroes, the 3VZ/3X combine, really fell down. They noted that the signal was to find the location. To get there they covered something like 25 miles, all the time vowing and declaring the tx was not on. Anyhow, they eventually reached the Gardens and undid field strength meters and other highly secret devices they use. Extremely strong signals were present, but had a bad habit of moving around now here, now there. Jack, always the gentleman, kept politely stepping out of the way of the lady with the pram, who always seemed to be barging into him just as the signal was becoming stronger, thus upsetting his carefully compiled calculations. After 30 minutes of this he decided to get in the ladies' good graces, by asking if he could see the baby. That baby showed more signs of radio activity than Hunt Jumbo, a very fat, very plump baby, consisting of a Type 3 and battery.

The next meeting will be held on Wednesday, 1st December, at the usual place. A film night has been arranged and you are asked to bring along the XYL or YL (not sure that the phrasing is correct, but you know what I mean) and make a night of it.

#### CENTRAL WESTERN ZONE CONVENTION

It is my endeavour to carry on the good job that has been done by our predecessors in this field. Our Annual Convention was held on 10th October at Reed's Lookout in the Grampians and it was a great show. A number of visitors were welcomed from neighbouring clubs. The present were Lyn 3ARL, Melbourne; Bob 3IC, Geelong; Bill 3ATU, Red Cliffs; John 3AGD, Dunkeld; Ken 3AKR, Red Cliffs; John 3AC, Coleraine; Ray 3ATN, Birchlip. Locals included 3AFO, 3NN, 3DP, 3TA, 3ARN, 3ATH, 3EF, 3XC, 3ACR, 3AKP, 3AKW, 3XYL, 3YL, junior ones, and two s.w.l.'s Geoff Oaks and Vic Maddern.

After a picnic lunch a Scramble was held resulting in John 3AGD and Neil 3HG sharing the prize. The 2 mx activities were not very successful as no signals were heard. The power pack of the tx decided to take the afternoon off.

The meeting resulted in the following officers being elected: President, Mr. Trev. Rodda, 3ATH; Vice-President, Mr. James Farrer, 3DP; Secretary and Treasurer, Mr. W. J. Kinsella, 3AKW. We were sorry that Alan 3EIL was unable to be present, as he had not quite recovered following his rather serious accident some months ago. We wish him all the best Alan and hope that you will soon be 100 per cent again.

In future the zone hook-ups will begin about 2000 hours in the 80 mx band.

#### NORTH EASTERN ZONE

Chas 3ACW was unfortunate in having to take part in operations connected with the tragic

aircraft accident at Mangalore on 31st October. Doug 3IJ left Mangalore 8th October to take up his new appointment after some leave. Incidentally, we are pleased to hear from Rex 3UR from time to time. Keith 3JC is understood to be devoting his spare time to house building now, as Stan 3AGT was some time ago. Alan 3UI is on the v.h.f., but Ken 3KR is working the DX on 20 mx. Des 3EP is thinking of v.h.f. and also trying for some DX on 20 mx. Opportunity has not offered a contact with Peter 3PF lately, neither has Les 3ALE, Johnny 3ACK, nor Alex 3AT been heard and reliable information has it that Murray's 3EIZ has many other interests keep him busy. Jim 3IK is not down in the notes this month. B.C.I. cramps the style of Howard 3YV on 80 mx. Steps will have to be taken to ascertain what Jack 3ARC does in the way of Amateur Radio now. 3XU was noted in the list of changed addresses in last month's call sign amendments.

Lex 3AIL was heard on 80 mx one afternoon recently, but Jack 3PF and Vic 3ABX have not been noted, and, although a little has been heard of his principal "off-sider", nothing is available of Hugh 3AHF himself or his radio

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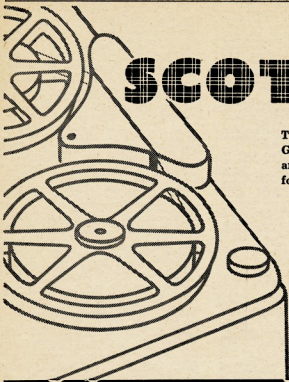
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Sec.: 15, 12.5, 8, 3.7 and 2 ohms.

Type 806—15 watts.  
Prim.: 10,000, 8,000 ohms  
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Sec.: 15, 12.5, 8, 3.7 and 2 ohms.

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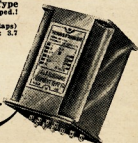
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The TJD rig is slowly nearing completion, recently Tiny borrowed an audio oscillator to check the bandpass of the modulator to see that it cuts off at 3 Kc.—it should be long now. Neville TNC seen recently demonstrating a c.r.o. watch timing machine at a local jewellers show—a most intriguing device, too. Congratulations (or should it be condolences) to Peter TFF who recently got married. Anyway, very best wishes to you both and I hope it doesn't mean a shutting down of v.h.f. activities Peter; the new QTH should be the goods for DX.

**NORTHERN ZONE**  
With the advent of finer weather TXW is busily brushing the cobwebs from the 2 mx 15 for field days, actually Chris has lately built up his own xtal controlled job for the purpose. Last month TLE, together with TML and TCA, spent a few nights up on Mt. Arbur whilst installing some v.h.f. gear. Almost nightly contacts were had with Luncheon, some of them almost went into the hours of the morning. Two VK3 stations were worked by TLE as well as some of the coastal gang and Flinders Island.

TFM is baby sitting up in Luncheon again and has a TX at his disposal to while away the hours. TLE had some trouble sorting things up but is a regular especially when he is listening on 2 mx. TFM is still waiting for that new ear! What with British dockers' strikes and now Australian wharves adding to it! TFF has taken unto himself an XYL. TLE went along to represent the fraternity. TLE has a new rack and power supply so Les TFM will have to wire in those transformer taps again to keep his rig to the fore in that area.

A very interesting evening was spent in a joint I.R.E./W.I.A. inspection of D.C.A.'s D.M.E. and radio installations. To many of us it filled a long felt want to be able to actually see in operation—that is D.M.E. and not just reading about it. TFF as usual ably conducted us around the installations. D.C.A., by the way, has a carrier on the air on 10 Mc. with 1 Kc. mod., so it will be a very useful marker for the Interstate v.h.f. band gang.

## HAMADS

1/- per line, minimum 3/-.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of ad. will be based on an average of six words a line. Dealers' advertisements not accepted in this column.

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**FOR SALE:** Bendix TA12D complete with modulator, genemotor unit, tubes and plugs. Take reasonable offer. 256 Malop St., Geelong, Vic.

**FOR SALE:** British RF24 three-valve converter, unused, modified for 10 and 15 mx, £8/10/-; RF26 converter, similar design, 50 Mc., unused, £9/10/-; dozen lots "QST" 10/-, "E" 15/-; "Amateur Radio" 5/-, 50 ft. 150 ohm lead 10/-, matched pair 80/75 25/-. Roth Jones, 25 Panoramic Road, North Balwyn, Vic.

**FOR SALE:** TA12D Tx modified for Ham bands, 60w. modulator with Trimax mod. transfr., 600v. 200 Ma. 866 power supply. Best offer above £30 for complete unit in rack or will consider each item separately. Palec Valve Tester, etc. Model VCT-V. Mod. Oscillator, Zenith, Model 512, 160 Kc. to 25 Mc. in five ranges. Replies to "Tender," Box 1234K, G.P.O., Adelaide, before 18th Dec., '54.

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3 Short Wave Bands—31 Metres,  
25 Metres, 19 Metres, in addition  
to Broadcast

£9/10/-

Dial Glass to Match ..... 14/10

Postage—Vic.: Unit 2/6, Glass 1/3.  
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**FOR ACCURATE MATCHING  
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## WODEN MULTI-MATCH MODULATION TRANSFORMERS MADE IN ENGLAND!

### Features—

- Potted type compound filled (vacuum impregnated).
- Universal application.
- Primary impedance range—2000 ohms to 18000 ohms.
- Secondary impedance range—200 ohms to 21000 ohms.
- Highest efficiency—lowest weight per watt.
- Easy to solder heavily silver plated tags.
- Above or below chassis wiring.
- Capacity—30 to 250 watts as under:

List No.	Audio Watts	Watts RF Input	Max. Sec. Current	Overall Size L. W. H.	Weight lbs. ozs.	Price incl. Sales Tax
UM1	30	60	120 Ma.	3½" x 3½" x 3½"	5 8	£6/9/11
UM2	60	120	200 Ma.	5½" x 4½" x 5½"	11 8	£9/17/2
UM3	120	240	250 Ma.	5½" x 5½" x 5½"	14 8	£12/2/5
UM4	250	500	400 Ma.	10½" x 6½" x 8½"	41 0	on application

**For Minimum Hum - Maximum Efficiency**

## WODEN MICROPHONE TRANSFORMERS

Enclosed in a drawn heat-treated case of heavy gauge mu-metal, this type MT Microphone Transformer is suitable for use where MINIMUM HUM pick-up and MAXIMUM EFFICIENCY is required. It is designed for use with a moving coil microphone from 15-30 ohms impedance and on type MT101 the centre tap of the primary is connected to one side of the secondary and earth. One hole fixing allows rotation for minimum hum pick-up. Dimensions: 1" dia. x 1½" long. One hole fixing: 7/16" dia. hole. Type MT101 Ratio 50 : 1 overall, Price £3/14/6 incl. Sales Tax.

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